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Original Articles

BACTERIAL EXAMINATION OF THE STOOLS IN SUSPECTED CANCER OF THE STOMACH *

PHILIP KING BROWN, M.D.
SAN FRANCISCO

It is surprising that the facts presented by Rudolf Schmidt from Neusser's clinic in 1906 regarding the presence of the Boas-Oppler bacilli in the stools in cancer of the stomach has attracted so little attention in view both of Schmidt's well-known standing and the expressed conviction of Neusser as to the significance of the finding. Schmidt showed the following fact: The bacterial examination of the stools by Gram's stain under normal conditions gave a picture of very few organisms, the Gram-negative colon group vastly outnumbering any Gram-positive organisms. The normal stool Schmidt called Gram-negative. A stool that with Gram's method showed uniform-sized bacilli far outnumbering all other organisms he regarded as Gram-positive. Occasionally a stool was found in which Gram-staining organisms in great varieties outnumbered other organisms; these organisms were chiefly cocci and non-uniform bacilli which he differentiated in a manner to be referred to later. They are not Gram-positive in the sense that the predominating organism is a well-staining uniform bacillus. Schmidt takes the ground that Boas-Oppler bacilli are vastly more easily found in the stools than in the gastric contents, which is quite true, and he believes that if the morphologic characteristics of the Boas-Oppler bacilli are determined in differentiating them, their relation to cancer becomes of greater significance. He has stated, as have a great many other observers who have followed the matter carefully, that many organisms have been mistaken for the Boas-Oppler bacilli. This has served to put the relation of the Boas-Oppler organism to cancer in considerable doubt. While not contending that the occurrence of the organism is characteristic of cancer, Schmidt points out how easily the organism is mistaken for certain other bacilli. Every one who has studied this question at all will admit at once that our diagnosis of Boas-Oppler bacilli is made on very insufficient grounds, when one considers the care that Schmidt has exercised in differentiating them. Certainly hereafter all the deductions about the relation of the organism to cancer must be made on an absolute determination of what is the Boas-Oppler bacillus.

In a study of a large series of cases from Neusser's clinic and from the subsequent reports by a few other observers, the following deductions may be made:

1. A typical Gram-positive stool may occur in:
   Primary cancer of stomach.
   Ulcer of stomach (Elliott. Not confirmed at operation or autopsy).
   Typhoid (Neusser).
   Cancer of the uterus with emaciation and cachexia (Neusser).
2. "Gram-negative stools exclude cancer of the stomach" (Neusser).

Elliott, however, found a secondary cancer of the splenic region with a Gram-negative stool, and one other gastric cancer with uremia and excessive vomiting, also with a Gram-negative stool.

My own findings thus far in a series of cases of cancer of the stomach in which the diagnosis was confirmed at operation or autopsy have failed to show any cases in which the stool was other than Gram-positive, and in no case of acute or chronic ulcer has the stool been other than Gram-negative, on repeated examinations.

The most interest, however, centers about four cases in which a diagnosis of gastric ulcer was made on account of the clinical history, pain, lack of cachexia and the presence of free hydrochloric acid in the stomach. Although the bacteriologic examination of the stool had been made in each case, its importance was not held to be sufficient to warrant its being weighed in the evidence. In each case an operation was performed and the diagnosis made clinically as follows:

CASE 1.—Clinical diagnosis, ulcer of stomach at pylorus. Operation, extirpation of pylorus. Microscopic examination: diagnosis, malignant degeneration of ulcer in the pyloric opening.

CASE 2.—Clinical diagnosis, ulcer of stomach. Operation, gastroenterostomy. Death from hemorrhage. Diagnosis at autopsy, malignant degeneration of ulcer of the lesser curvature near pylorus.

CASE 3.—Clinical diagnosis of multiple ulcer with uncontrollable hemorrhage. Operation, gastroenterostomy; revealed extensive secondary cancer, a primary tumor in the gall-bladder, stomach wall involved in several places. Diagnosis confirmed at autopsy.

CASE 4.—Clinical diagnosis of ulcer of the pylorus. Operation, pylorectomy. Several areas of cancerous degeneration in large ulcer at pylorus.

I have not entered into detail in these cases as to the ground for clinical diagnosis of ulcer of the stomach. I believe in each case that such a diagnosis was entirely justifiable in the light of the symptoms. The significant point of it is the great importance that was apparently attached to the one symptom that was not weighed with the others. Personally, I should continue the bacteriologic examination of the stools in doubtful cases with very much more interest than before, for not only is the early diagnosis of cancer a matter of the utmost importance, but one can not fail to be impressed with the

* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

extraordinary reports of the Mayos as to the frequency with which cancerous degeneration of ulcer occurs.

Schmidt's technic is as follows:

Make thin smears.

Dry and fix five minutes in methyl alcohol (thus dissolving also fat).

Stain five minutes in anilin-oil-gentian-violet; wash.

Iodin-potassium-iodid solution till deep purple; wash.

Decolorize in 95 per cent. alcohol till nearly colorless; wash.

Stain in weak aqueous solution of fuchsin; wash; dry; mount.

In considering the difficulties in recognizing the Boas-Oppler bacilli, Schmidt calls attention to the following types:

1. Lactic acid bacillus type; these organisms are thinner than the colon group, vary greatly in length, show no spore formation, are non-motile, show areas of Gram-negative stain, stain yellow with Lugol solution and show granules in the protoplasm. All characteristics are identical with the bacilli found in the coffee-ground vomitus of cancer of the stomach.

2. Pseudo-colon group; these have the same morphology as the Gram-negative colon group, except that they are Gram-positive and non-cultivable. They occur in catarrh of the bowel, especially with acid stools.

3. Gram-positive bacilli, thicker than the Boas-Oppler and occurring in long chains, staining blue with Lugol solution, non-cultivable; occurring in chronic catarrh of the lower bowel, especially when atony and flatulence are present.

4. Emerson says that "some passing under this name (i. e., Boas-Oppler), are surely the gas bacillus."

5. It seems probable that the common *bacillus subtilis* is often mistaken for the Boas-Oppler, especially in stained specimens of stomach contents.

350 Post Street.

ABSTRACT OF DISCUSSION

DR. HERMAN B. ALLYN, Philadelphia: Do the bacilli which are Gram-positive appear early in the stools in cancer of the stomach?

DR. ALLEN A. JONES, Buffalo: Has Dr. Brown found the Oppler-Boas bacilli in the gastric contents in those cases in which the bacilli were Gram-positive in the stools? If so, did the cases prove later to be gastric cancer?

DR. ANTHONY BASSLER, New York: I have also observed the Boas-Oppler bacilli in the stools in some instances of gastric carcinoma. Recently I have been interested in making slides from the back of the tongue and throat in stomach cases. While in vomiting they are often found in the mouth, lately I saw a case in which there was no vomiting, but the organisms were found in large numbers, probably having been carried up by the eructations that were present.

DR. PHILIP KING BROWN, San Francisco: I found these bacilli in the stools early in cases of cancer. In four cases in particular in which diagnosis of ulcer was considered the most probable one, they were evident. If these bacilli are Gram-positive, they should make one suspicious of cancer of the stomach. I did not look for them in the gastric contents. In the four cases attended with Gram-positive findings, the diagnosis was confirmed finally at autopsy or at operation.

Bacteria in Pasteurized Milk.—M. J. Rosenau, in *Annals of Medical Practice*, states that pasteurized milk must be handled with the same care as raw milk, if not with greater. Pathogenic bacteria grow more readily in milk which has been heated than in raw milk. The germicidal properties of the milk are destroyed by high heating, and finally the surviving bacteria do not have so hard a struggle for existence in the heated milk. It must not be forgotten that pasteurization kills only the major portion of the non-spore-bearing bacteria, and that a large number of micro-organisms remain, and, if permitted to grow and multiply, they may occasionally produce undesirable qualities or perhaps poisonous properties in the milk

AMEBIC DYSENTERY *

SIDNEY K. SIMON, A.B., M.D.
Lecturer on Clinical Medicine, Tulane University; Visiting Physician, Tours Infirmary
NEW ORLEANS

Dysentery has been known as an independent malady of widespread and almost universal distribution since the most remote period of time. In the very earliest writings on medicine references may be found to the disease, and the part it has played through the ages, especially in connection with the fatalities of army life, has left an impress on the historical records of nearly every nation. It is only within what might be called modern times, however, that a step has been made toward the closer analysis and classification of the disease. The differentiation of the old-time bloody flux, with its confused clinical picture, into the two clearly defined types identified to-day under the names of amebic and bacillary dysentery, has been the result of investigations entered upon only within the past half-century.

HISTORY

Lambl, in 1859, was in fact the first to offer the suggestion of a possible specific cause for dysentery. In the course of a routine examination of the intestinal mucus of a child who had died of enteritis he ran across an ameboid body, probably a flagellate, which impressed him as a possible factor in the inflammatory process. This observation did not, however, seem to create much comment at the time and no further investigation was made in this direction until 1875, when Loesch was able to identify probably the first true amebæ in the dejecta of a characteristic case of dysentery, originating in St. Petersburg. Eleven years later Kartulis, working in Egypt, always a hotbed of dysentery, reported 150 cases from that country, in all of which he found the ameba. Subsequently he noted the same organism in liver abscesses. Koch had, however, three years before, demonstrated amebæ in sections from an ulcerated bowel, showing a direct causal relationship between the parasite and the intestinal lesion.

In this country the first amebæ discovered were by Osler, in 1890. Shortly afterward, confirmation came from various sources. Within one year Stengel found 3 cases of true amebic dysentery in Philadelphia and Musser 4 from the same city, while Dock was able to report 12 cases of the acute and chronic types from Galveston, the first to be recorded from the far South. The disease has subsequently been found to exist, scattered over many other sections of this country, and, in fact, in nearly all parts of the world sporadic cases crop out occasionally, apparently of purely indigenous origin. Even in such northern latitudes as Germany, England, Japan, or even Russia, there come reports at times of its occurrence; but the disease is essentially a tropical or semitropical one and prevails more extensively in warm climates, in connection usually with a low-lying or poorly drained soil.

In certain regions of the South, including a comparatively large area of our country, conditions are almost ideal for the prevalence of an amebic infection. It is only within very recent years, however, that its occurrence in the South, in wide-spread endemic form, has come to be suspected, and even to-day the question is scarcely regarded by the profession in a light at all befitting its high importance. In spite of the frequent

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case-reports from Southern observers, the impression has nevertheless seemed to persist in part that the disease is of rare occurrence in the United States and that the relatively few instances which find their way into print might be traced to a previous residence in the tropics. This impression should no longer be allowed to go unchallenged. As far at least as the South is concerned nothing could be falser. The disease, it should be insisted on with the greatest possible emphasis, does find a home ideal for its existence and dissemination in the semitropical environment of the South, is and has been for years widely prevalent there, though unfortunately masked all too frequently under the vague and generalized term of simple chronic diarrhea, or some such indefinite diagnosis.

Of the truth of these facts there can be found testimony sufficiently suggestive in the various scattered case reports of Southern observers, such as Harris from Atlanta, Jelks from Memphis, Wilson from Birmingham, Wasdin from Charleston, Dock from Galveston, Slaughter from Virginia, and many others. As a further contribution to this array of evidence I wish to offer an additional group of 50 cases from New Orleans, which I have been able to collect during the past two years, partly from my own records and partly from those of my colleagues with whom I am associated in the hospitals. These few cases, I need only remark, serve merely an an index to the prevalence of the amebic dysentery in our particular section and do not in any way begin to cover the field. On the contrary, I am convinced that, were the full facts known, as they should be, the number of cases at present unrecognized and overlooked in all parts of the South would be found to foot into the many hundreds. In fact, the tardy recognition accorded this wide-spread amebic infection bears a faint resemblance to the history of the hookworm disease in the South. Before Stiles' epoch-making discovery, thousands of hookworm sufferers, as we now know, dragged out a miserable existence, weighted down in most instances under a false diagnosis.

In part extenuation of this hesitancy and failure in recognition, the extremely variable and capricious symptom picture of amebic dysentery, it is true, makes a purely bedside diagnosis uncertain, and may even tend to disarm an ordinary suspicion of its existence. The term "dysentery" has come to be associated in our minds with such classical symptoms as an outspoken tenesmus, small, frequent and liquid evacuation, containing blood and mucus, all running a more or less rapid and acute course. This clinical picture, however, could scarcely be used as a descriptive one for the so-called dysentery of amebic origin. In the first place, this condition is practically always chronic, in the sense of a protracted infection, and the acute types occasionally met may be looked on as mere exacerbations. The number of years the infection might exist in latent form, or, if established, remain unrecognized, is very variable and depends largely on the ability of the physician in making the diagnosis.

Among my series of 50 cases, in one the disease could be traced back twelve years, in another eight years, in 2 instances six years, and in 5 cases the condition had been present two years at the time of the first consultation. The average duration of the cases was about nine months.

The symptoms of amebic dysentery, as I have said, are not always clearly defined and constant. During its course there are quiescent periods, when apparently all trace of the trouble has vanished. The bowels might even become obstinately constipated. The amebæ remain, however, constantly under cover during this time, the infection suddenly flaring out again under conditions favoring renewed activity. These occasional attacks of diarrhea, alternating with periods of normal evacuations or constipation, make up a very suggestive picture of an amebiasis, and when present should lead to an immediate examination of the stools for the amebæ.

When attacks of diarrhea do occur, the number and character of the evacuations do not follow any set rule. A great deal depends on the location of the ulcers. If low down, and especially if in the rectum, the evacuations are usually frequent and a marked tenesmus, with soreness of the lower bowel, is noted. If the main lesions are above the sigmoid, as they most frequently are, the number of stools may never average above two to three per day. Mucus may or may not be present, but commonly is. Pure blood, or a blood-streaked mucus, I have found to be fairly constant, though at times in only small amounts. In one of my fatal cases, with liver abscess as a complication, the patient suffered severe hemorrhages, a symptom which, according to Strong, is always suggestive of abscess.

As far as the influence of age is concerned, the average in my cases was 37 years. This is in line with the usual figures given. The oldest of my patients was 60 and the youngest 22. The disease is rare among children, the dysenteric infections in early life being mostly of the bacillary type.

The colored race does not figure largely in my series, in which there were 42 whites and only 8 negroes. This, from a Southern city, in a non-selected field, is suggestive, as showing the relative infrequency of the disease among the blacks. Again, only 6 of the 50 patients were females, thus exhibiting a large preponderance of males affected. Occupation and the greater exposure of males to infection in general would, I believe, sufficiently explain this difference. Among my cases 25 were common laborers, 3 were farmers, 4 merchants, 2 bakers and 1 was a rabbi.

In the determination of the prevalence and endemicity of the disease in a particular locality, the nativity and immediate residence of the patients become of importance. Fifty per cent. of the patients I observed were born in Louisiana and had never lived in any other state or country, while an additional 14 per cent. had resided in Louisiana five years prior to the onset of the disease. In only two instances could the infection be traced definitely to the tropics. The remainder all came from neighboring Southern states. These figures, I believe, require no further comment in refutation of the views sometimes held that amebic dysentery rarely originates in this country and—more especially to the point—in the South.

The prognosis and, in a sense, the curability of this, as of other diseases, is largely determined by the period of its recognition. In a general way it may be said that the longer the infection has continued the greater probability there is of serious complication. Seventeen, or 28 per cent., of the fifty patients whose cases I have tabulated died. In 15 of these the cause of death was determined accurately by post-mortem. Extensive ulceration of the large bowel was found in practically all, but in nine instances this was found to be the sole cause of the fatal termination. Perforation was observed in but one case.

Six cases of abscess of the liver were recorded in these autopsy records, 5 solitary and 1 multiple. This com-

plication is always an important and serious one. Figures differ, however, as to its frequency. In Futcher's cases, liver abscess was diagnosed in 22 per cent., in Craig's 33 per cent., and in Harris' only 15 per cent. All agree as to the infrequency of this condition in the female sex. All my patients were males. There is one point in connection with amebic liver abscess which I believe should be emphasized. The condition is looked for in the amebic infected districts all too rarely. The diagnostic puncture of the liver is always a simple procedure and is attended with practically no danger. Since the symptoms of an abscess are often so uncertain, the use of the aspirator is indicated when the merest grounds for suspicion are present. Only thus may a serious and often irretrievable oversight be avoided.

When we step now from the discussion of the purely clinical aspect of the amebic infections to a consideration of the organism itself, another chapter of almost equal importance spreads itself before us. The studies of recent years into the biologic and morphologic properties of the ameba have had, in fact, a highly important bearing on the solution of many of the hitherto vexed problems of the disease. Of these problems the principal have hinged on the question of the actual pathogenicity of the ameba to man, as well as on the separation, if such were possible, of a harmless from a disease-producing variety. It has been the lack of just such a differentiation in the past which has occasioned the degree of confusion in diagnosis and brought about the frequent false and contradictory reports in regard to the treatment. The earlier investigators recognized but one type of parasite, which, because of its connection with colonic infection, accidental or otherwise, they termed *Amœba coli* (Loesch). In 1891 Councilman and Lafleur, in their splendid studies, proposed that this name be dropped and that of *Amœba dysenteriæ* be substituted, since they believed that they had established a definite causal relationship between the ameba and the dysenteric lesions. They also hinted at the possibility of a non-pathogenic organism, for which the old term *Amœba coli*, they thought, might hold. Subsequently, several other forms of nomenclature were suggested, but it remained for Schaudinn, in 1903, following closely upon Jurgen's work, to announce the first definite and scientific classification of the amebæ. He retained the term *Entamœba*, previously suggested by Casigrandi, as the proper designation for the particular genus invading the intestine, but drew a sharp line of distinction between a type found pathogenic to man and cats, which he named *Entamœba histolytica* and a non-pathogenic, which he termed *Entamœba coli*.

Schaudinn's classification and conclusions have now been fully confirmed by the majority of competent observers, with the notable exception of Musgrave and Clegg, who still maintain that there is insufficient grounds for such a differentiation. The more recent, exhaustive studies of Craig, Viereck, Flexner and others leave little justification, however, for further doubt.

The two forms have many points of difference, both structural and bionomic, which allows of an easy differentiation between them.

This holds for native as well as stained preparations. I have found the Wright stain, as recommended by Craig, satisfactory.

Now that pure cultures of the *Entamœba histolytica* in guinea-pig serum has been found possible without symbiosis, a further insight into the life-history of this organism and its behavior under various conditions might be hoped for.

The question of the distribution of the *Entamœba coli* over the various regions of the world, as well as the proportion of healthy individuals infected with this apparently harmless parasite, are points which in part still remain open for further investigation and study. According to Craig, 71 per cent. of healthy individuals in the Philippines are found to harbor this organism, while the stools of 65 per cent. of the active soldiers stationed in San Francisco were likewise found infected. Schaudinn's figures, along the same line, average 50 per cent. for West Prussia, 20 per cent. for Berlin and 66 per cent. for those examined in the neighborhood of the Adriatic Sea. Dock, however, examined 200 normal subjects in Michigan and found the *Entamœba coli* in but two, or 1 per cent., of the whole. My own experiences in New Orleans, while not as yet based on a large or systematic scale in this field have indicated at least the relative infrequency of the *Entamœba coli* in Louisiana. The association of the harmless with the pathogenic type seems to be the rule in the Philippines; but I am yet to see an instance of this in our section.

In a large proportion of the stools I examined, however, *Cercomonas hominis* were found and in five of my cases I noted the *Strongyloides stercoralis* in connection with the *Entamœba histolytica*. Noc has recently called attention to this point and asserts that the so-called Cochin-China diarrhea, which was formerly thought to be solely due to a strongyloides infection, is in reality amebic dysentery, which in China is frequently complicated by the presence of the strongyloides worm.

TREATMENT

While substantial progress has been made, as we have seen, during the past half-century in almost every department of the subject of amebic dysentery, the matter of treatment still remains in almost as unsettled and undetermined state as before. There appears to be little chance, even to-day, with our advanced conceptions of the many phases of the disease and its problems for any unity of opinion as to the proper methods of its control. In the past, empiricism has been the sole guide and unfortunately holds sway to a great extent down to the present time. Every clinician would seem to hold individual ideas of the proper methods of treatment and those, too, largely irrespective of the experiences of others.

For hundreds of years ipecacuanha has been held in the highest esteem, above all other remedies, in East India and neighboring Oriental countries. This drug thus has at least the authority of longest usage and even to-day is regarded in Indian practice as almost a *sine qua non* in the treatment of amebic dysentery. Contrasted with this experience, however, there is a mass of contradictory testimony from other sources in which ipecac has seemingly been found totally inadequate. The experience of our army officers in the Philippines, for example, has always appeared particularly unfavorable to the use of ipecac. Strong, in his recent article in "Modern Medicine," discusses the ipecac treatment with a bare word, stating that the drug is "in no sense curative." Jackson is even more outspoken in his opposition. He says, in regard to this remedy, that he "has seen it thoroughly tried and is convinced of its utter uselessness and also of its harmfulness." From other countries, equally unfavorable experiences are recorded from time to time in the literature. Manson, however, always a great enthusiast in regard to the ipecac treatment, in his latest utterances on the subject, again puts forth a plea with his brethren in other lands, for another

trial of this drug. Impressed with the weight of such high authority, and especially when born of so large an experience, I have ventured to employ ipecac in my cases during the past two years and am ready to acknowledge now my thorough conversion to the sanguine views of Manson and other English authorities in the tropics.

The detailed method of its administration is, I believe, of the greatest importance, the lack of which stands as explanation in part for the failures reported in some quarters. First of all, the drug should be administered only in pill form, coated to the extent of about an eighth of an inch with phenyl salicylate (salol). The patient must be put to bed for the first two weeks' treatment and his diet restricted to liquids or, at most, light solids. This absolute rest in bed, with restricted diet, is particularly essential to the details of the plan. Castor-oil may be given as an initial purgative and then each evening, after a three hours' fast, the pills coated with phenyl salicylate are administered. A start may be made with 40 or 60 grains, depending on the length or severity of the infection, but each subsequent evening the dose is reduced 5 grains, until the limit of 10 grains is reached. Following this, I have been in the habit of continuing with 10 grains each day for the next two weeks.

The use of the drug in this way has appeared to me almost in the light of a specific. Under its influence the stools become diarrheic, soft and pultaceous and the amebas seem to vanish almost at once, even though careful search be made for them. Opium is no longer required to prevent nausea or vomiting, if ordinary care be taken to have the pills well coated with phenyl salicylate.

The *modus operandi* of ipecac, which might account for the success following its administration, has never been satisfactorily explained. There is certainly nothing in the known physiologic effects of the drug which would suggest an explanation of its efficiency in this particular field. It seems plausible to infer, however, that ipecacuanha principles, through some intestinal changes, become inimical to the life of the amebas.

Bowel flushes, on which almost exclusive reliance is placed in some quarters, may or may not be employed in connection with the ipecac treatment. I prefer to make use of irrigations, however, principally as a means of washing away débris from the ulcerated bowel and begin with this procedure usually after the ipecac has been brought down to the limit of 10 grains per day. The character of the solution is not of great importance, so long as a sufficient quantity of water for thorough cleansing of the bowel is employed. Before my success with ipecac I had found all forms of solutions unsatisfactory. I believe simple saline solution fulfills the full requirements as a bland non-irritant bowel wash. As an after-treatment, nitrate of silver solutions may be indicated as a curative agent for the still remaining ulcerations.

What shall be said, finally, in regard to surgical intervention in intractable forms of the disease? The comparatively simple operation of appendicostomy, which, if properly performed, it is asserted, will permit a more satisfactory flushing of the large bowel, has found many advocates in this country in recent years. Its rationale, however, is not quite as clear as some enthusiasts of the plan would have us believe, and it is wise that the whole question be allowed to remain open for more extended trial and investigation.

1209 Maison Blanche Building.

ABSTRACT OF DISCUSSION

DR. THOMAS B. FUTCHER, Baltimore: In 1903, at the New Orleans Session of the American Medical Association, I analyzed our experience at the Johns Hopkins Hospital with cases of this disease during fourteen years, since the hospital was opened. At that time, there had been 119 cases of amebic dysentery in the wards. It was interesting to note that being not far north of the Mason and Dixon line, 95 of the 119 patients had never been out of the state of Maryland, and that the infection, therefore, must have been contracted there. The most important complication of the disease, of course, is amebic abscess of the liver. Among the 119 cases there were 27, or 22.6 per cent., amebic abscesses; 9 of these abscesses ruptured into the lung causing pulmonary abscess. One of these subsequently ruptured into the pleural sac, producing a pyopneumothorax; 3 of them had empyema. In 3 of the liver abscess cases the inferior vena cava was invaded. One case had a remarkable result; the abscess ruptured into the vena cava and there occurred a thrombus extending into the right auricle. This case has already been reported by Dr. Flexner. It is surprising, when we consider the extent and depth of the ulcers in this disease, that there are not more intestinal hemorrhages than do occur. There were but three instances of severe hemorrhage in our series of cases; all these had a fatal termination. There were 3 cases of perforation of the bowel, with a resulting peritonitis. One was recognized early and the patient was operated on, but died. There was one case in the wards in which an abscess was found in the floor of the mouth. The pus from the abscess contained ameba. This case has also been reported by Dr. Flexner. I wish to emphasize Dr. Simon's statement regarding the prevalence of the disease; I believe that it is of more frequent occurrence than is supposed. This disease can only be recognized by a most careful and systematic examination of the stools. There was one patient who came into the wards at Johns Hopkins four years ago suffering from diarrhea, in whom examinations of the stools gave negative results. Recently he again returned to the hospital and amebas were found in the stools. I have no doubt but that four years ago he had amebic dysentery. A careful and systematic examination of the stools should always be made, not once, but repeatedly. With reference to the operation of appendicostomy, that is, suturing the amputated appendix in the abdominal wound and irrigating the colon through this fistula, I would say that the results with us, so far, have been unsatisfactory, although our experience is limited. One man had appendicostomy performed Sept. 9, 1907; until April 14 of the following year, 1908, he had had daily irrigations of quinin solution, 1 to 500, and occasionally of nitrate of silver solutions, and of peroxid of hydrogen, etc. Only one month before he left the hospital did the amebas disappear from the stools. I have not been able to follow him since. This was certainly not a satisfactory result. There have been two other cases in the hospital in which appendicostomy has been performed without having given what we consider satisfactory results. Since Dr. Dock reported at this year's meeting of the Association of Tropical Medicine in Washington the results of the use of ipecac, Dr. Barker has employed it in two cases in his wards. Dr. Boggs told me yesterday that after the first dose a most thorough examination of the stools failed to reveal amebas. This is a remarkable result. I feel that the ipecac treatment ought to be given a thorough trial, so that we can see whether the results obtained are more satisfactory than are gotten by other methods. The ipecac is given in salol-covered pills, 20 grains to the dose, three times a day. Dr. Dock states that it may be given in smaller doses at shorter intervals, aggregating from 60 to 80 grains in twenty-four hours.

DR. GEORGE DOCK, New Orleans: The importance of the subject that Dr. Simon has brought up is realized by everybody who comes in contact with cases of chronic diarrhea. The geographical distribution of dysentery is certainly great; south of the latitude of Louisville, Ky., it is a very common disease. I reported a case occurring in the lower portion of Michigan in 1902. After that I discovered another case in northern Michigan; this patient had never been out of the county in which he lived. So the disease should be looked for wherever

there is any chronic disturbance of the intestines. It is important for us to remember that a patient with chronic dysentery, true amebic dysentery, does not have the classical symptoms of dysentery all the time. The stools may appear normal for long periods of time. I should like to speak of some of the practical details in examining the stools of these patients. Ordinarily, it is easy to have a patient pass a stool at command. An examination of a stool with the naked eye is often unsatisfactory. Even an examination by the microscope may be negative. Therefore, in a negative case we should never be satisfied with a single examination or even with repeated examinations of ordinary stools. The next thing to do is to examine by rectum with a tube or speculum. t is better to pass the tube or speculum into the rectum; o use no grease on it, because it interferes with the examination. By working the instrument around, it will enter and sometimes we can get very positive information. If this examination should be negative, I think it is essential to give the patient a dose of salts, say Carlsbad salts, in order to produce watery stools. It is easy to understand by an examination of the intestine how a stool can be passed without amebas with it. The amebas lie in the abscesses or in the ulcers along the wall of the intestines and the stool passes by without mixing them in. I recall an interesting and instructive experience I had with a case that was diagnosed as amebic dysentery from the symptoms, yet was unable to find the amebas when the patient had a natural stool. A rectal tube was passed, but the patient complained so that it had to be removed. I then passed my finger into the rectum and got a lot of stuff which was filled with amebas. Why they were not forced out before I could only surmise. In the examination of the material it is not necessary to use a warm stage. Even in fairly cool weather the amebas keep up their activity for sometimes three or four hours. It is better, however, to examine them fresh; it is easier to detect them when they are lively. There is another point which I think should be mentioned. Beginners are easily led astray by the presence of large cells which they think are amebas. Red cells may be included in them. I have found people who had great difficulty in differentiating them.

I am glad that the success with the ipecac treatment has been confirmed by the results obtained in Dr. Barker's two cases. When we speak of results I must admit that many of the patients could not be followed up; so we could not be certain that they were entirely cured. Some patients have come back with the disease after weeks or months, four or five months, and we have not been able to find amebas, either with the aid of the rectal tube or speculum, or with the use of the Carlsbad salts. I recall the case of a man with the disease; he came from the Philippines and had been under treatment for two years; he had been given quinin, salicylic acid, etc. This patient was readily cured by the use of ipecac according to the method of Roberts. He was given 7 grams, or 105 grains, of ipecac in pills covered with salol. The amebas immediately disappeared from his stools. When he left the hospital I thought he might have a recurrence. He wrote me four years later and stated that he had "consumption." I supposed the amebic dysentery had returned with abscess of the liver, and I asked him to come back for examination. He returned and I found that he had tuberculosis. A very thorough examination of the stools failed to reveal any amebas. There were no signs of liver abscess. The failure of the operation of appendicostomy is what we should expect in some cases. The attempt to irrigate the colon through the cecum, washing downward, must fail in washing out the tube thoroughly. At all events, it would be well to try ipecac before resorting to an operation.

DR. HOBART A. HARE, Philadelphia: I think that much interest in this discussion lies in the fact that thirty years ago Stille taught his students to use ipecac at a time when they had no conception that amebas produced the disease. In May, I received a paper from Dr. Rogers of the Indian Medical Service practically repeating the facts already published in regard to the value of ipecac not only for the cure of dysentery but as a prophylactic against amebic abscess of the liver. The claims he makes for the prevention of hepatic complications by the employment of ipecac are so strong that, if his results are proved to be correct, the use of this agent should be resorted to in every case of amebic dysentery. The instances in which appendicostomy has proved of value constitute a class by themselves, a class in which the appendix acts as a focus of infection for the bowel. The cure does not follow from the irrigation used in the colon, but because it removes the focus of infection in the appendix. In a number of cases of so-called mucomembranous enteritis or colitis which seemed to be associated with neurasthenic conditions, I have seen the removal of the appendix result in a cure, simply because when the appendix was opened it was found to contain one or two drops of pus, and I have seen the physician in attendance disappointed because he thought the operation was going to be a failure so far as an ultimate cure was concerned, when in reality the removal of the infecting focus was exactly what was needed. And so in amebic cases, the appendix oozes out infection day by day. I am glad Dr. Dock spoke of the difficulty of irrigating the colon through the appendix; I am inclined to believe that this is no safe procedure. Some may remember that about twenty years ago experiments were made to determine just how much pressure the intestine could stand. It was proved that a pressure greater than that exercised by a fountain syringe placed twenty inches above the table was dangerous. This is the pressure we ordinarily get. This is more dangerous in a diseased gut, particularly when the lesions are ulcers the result of amebic infection. I agree that it is necessary to have proper technic in the use of ipecac. If not given properly it fails. Three or four surgeons returning to the United States from tropical countries have told me that this treatment only failed when the method of administration was erroneous. A very interesting point concerns the geographical distribution of the disease. Jefferson College Hospital is one of the largest in the country, more than 5,400 patients being admitted to the wards annually. There is a correspondingly large outdoor service. I have charge of these wards six months out of every year. I think I can remember but three cases of amebic dysentery occurring in the eighteen years that I have had charge of this service. We have a different service from that at the Johns Hopkins Hospital not only as regards dysentery, but as regards malaria, and yet we are only distant about one hundred miles. This difference is extraordinary. I am sure that the same conditions exist in other Philadelphia hospitals.

DR. HUGO A. FREUND, Detroit, Mich.: I can bear witness to Dr. Simon's statement about the widespread prevalence of dysentery. The cases are not necessarily endemic for it seems to me that they are coming from different portions of the globe. Last year I treated two cases of amebic dysentery that in some ways were of great interest. At the suggestion of Dr. Dock the first patient was treated with the salol-covered ipecac pills, 5 grains being given at a dose, and repeated every hour. But my method of administration differed somewhat from his. I first prepared the patient for medication. The first time the ipecac was given, 65 grains altogether, there was considerable diarrhea, tenesmus and pain. An examination of the stools the next morning, to my astonishment, revealed no amebas, nor could any forms resembling dead ones be found. For the next two weeks I gave the patient nothing but colonic irrigations; in addition the patient had rest, a soft diet, etc. In two weeks he was put through another course of ipecac, receiving a little more this time. All through there were no amebas in the stools, the patient experienced very little pain. In another week he was given 80 grains more of salol-covered ipecac pills. That was last November. Seven months have elapsed and the patient has gained in weight and feels very different since his infection. To all intent and purposes he is absolutely well. In this case the interesting feature was the degree of ulceration in the lower bowel which could easily be seen with the sigmoidoscope. These ulcers are entirely healed. His stools are normal in gross appearance and in the course of repeated examinations I have never found a sign of an ameba. The other patient was a young soldier from the Philippines. He received a typical course of treatment, being given large doses of salol-covered ipecac pills. This patient was also irrigated because I felt that some benefit would result from flushing the large bowel. He, too, is well. I am sure that there are other cases

like this in different parts of the country as far north as Michigan, but we fail not only to recognize these cases, but also to treat the patients by what I believe to be the only satisfactory method, namely, administration of large doses of ipecac.

DR. JAMES P. TUTTLE, New York: It is well to hear both sides of a subject such as this—the surgical as well as the medical. We who have had more experience in the local treatment of these conditions than those who have participated in the discussion thus far know that the results of local measures and of appendicostomy have been maligned here this afternoon; all our patients come to us for local measures and appendicostomies after failure to cure by medical measures alone. I have seen true amebic dysentery develop in people who had never been outside of a fifty-mile radius of New York City, and there is no longer any doubt that the disease is frequent high up in the temperate zones. A patient was sent to me for diagnosis who had been treated by physicians in Philadelphia, Baltimore, Richmond and New York. All these men had amebic dysentery in view, but they had failed to discover the amebas. I took the patient and made a very careful local examination and could only find some small scars in the rectum, apparently such scars as are seen after dysentery. I sent this patient to the hospital and placed him in the laboratory. He was given large doses of salts and was told to stay there until his bowels moved. He remained there five hours and yet there occurred no movement of the bowel. The next day this was repeated and we got a stool in which was a mass said to be about the size of the thumb nail, which was alive with motile amebas. The stools must be examined in a fresh state and warm; also every stool should be strained in order to get the little mucus flakes in which the amebas are found. The patient, mentioned by Dr. Fletcher, who was operated on at Johns Hopkins Hospital, and in whom the appendicostomy failed to cure, turned up afterward in my office. I followed this patient carefully. In the appendix I found a rubber tube which had become almost vulcanized from being left in too long, and which stuck down five inches into the cecum. There were ulcers around the end of the tube where it was pressing. I also found in the lower end of the rectum a number of ulcers, not amebic at all, but the result of mixed infections, which did not require amebic treatment. They required simply local treatment for the subsequent infection which had followed the amebic infection. This was a traumatic ulcer and cure resulted from simple local treatment. I disavow any desire to perform an appendicostomy on an individual with amebic dysentery until there has been tried Epsom salts, ipecac, local washings with quinin solutions, etc. I do not think it makes much difference what solution is used so long as the temperature is below 70 F. I am using a different method. I do not advise operation until I have tried local treatment. But when I fail with the use of the local treatment and the patient comes back again in four or five months and shows that I have not reached the seat of the amebic infection, then I may propose operation. Washing out the colon through the appendix is effectual; it gives no mortality, while the reader of the paper confesses to a mortality of 17 per cent. under medical treatment. Over 125 of these patients have been treated in New York City, with but one death. This patient died from acute miliary tuberculosis after an appendicostomy. Not less than twenty officers of the United States Army, treated with ipecac and other medicines, were not cured; they then said, if these agents fail, let us try appendicostomy and see if we cannot be cured. The trouble with so many appendicostomy operations is that the operation is not done as it should be; an infection occurs around the end of the appendix which, as a result, slips back into the abdomen. Another thing is that the opening is closed too quickly. In the United States Army men the openings are usually closed inside of three months. I never close them inside of six months, and in the majority of cases I leave them open permanently. The opening is a safety valve. It is easy to get a stool by running warm saline solution through the fistula. I only advise operation as a last resort. Recently I have had three patients with amebic dysentery. I treated them by administering a formalin solution, one dram to a quart of water; along with full doses of tannopin by mouth. After the administration of the medicines and washing out the bowel I have not been able to see any amebas after forty-eight hours' treatment in any one of these three cases. These patients have been under treatment four months, two months and one month respectively. So far there have been no recurrences. I am inclined to believe, however, that it would be well to use local irrigations and at the same time use ipecac.

DR. SAMUEL G. GANT, New York: I wish to confirm Dr. Tuttle's statements regarding the usefulness of appendicostomy in the treatment of both the amebic and bacillary types of dysentery. This operation, however, would not be necessary except in rare instances in this class of cases if thorough colonic irrigations could be obtained otherwise. There is but a small number of medical practitioners, hospital internes and nurses who could effectively introduce the colon tube and wash out the bowel. Lack of training renders many unable to pass the tube beyond the obstructions offered by the sphincter muscle, rectal valves, and the angulation at the rectosigmoidal juncture. When the colon tube cannot be made to enter the upper part of the large intestine in the ordinary way, the sigmoidoscope should be introduced and the tube passed through it. Low irrigations diminish the number of stools but high washing of the bowel is imperative when a cure is anticipated. One must go even a step farther than this and place the patient in the Trendelenburg posture and then change him from one position to another to make the irrigation complete, because if this is not done the fluid will flow along one side of the gut and leave the lesions on the other untouched. In my opinion, the temperature of the solution has nothing to do with the healing quality of the irrigation and I prefer it at the bodily temperature because it is more comfortable; I have discontinued ice cold solutions because of the shock and great suffering which their employment frequently induces. I have successfully treated patients suffering from dysentery with solutions containing salt, quinin, ichthyol, kramaria, hydrastis, boric acid, permanganate of potash, formalin, silver nitrate and other medicaments in varying strengths, and I believe that the greatest benefit derived from any irrigating fluid is due to its mechanical effect in cleansing the ulcers and removing toxins from the bowel. When the discharge is profuse and contains considerable pus and blood, in the beginning I prefer to wash the bowel out daily with a solution containing from 20 to 30 grains of silver nitrate to the quart, to be followed by flushing the bowel with a normal salt solution to lessen the tenesmus when necessary; when the movements have a very offensive odor, I correct this and encourage the ulcers to heal rapidly by employing a 2 per cent. solution of ichthyol. I hold that the dysenteric lesions in a few cases involve the lower ileum and that in others the dysentery has become grafted on an enterocolitis, and that under such circumstances it is imperative that the irigating fluid be made to reach the few lesions in the small bowel as well as the many ulcers in the colon. In such instances, and in cases in which, for any reason, the appendix is found unfitted for through and through irrigation, I recommend cecostomy, which provides a simple means of irrigating both the small and the large intestine, a procedure which has proved universally successful in my hands. So far as my experience goes, appendicostomy and cecostomy are far superior to diet, rest and all forms of medication, not only in dysentery, but in other types of colitis; and these surgical procedures should not be discarded in favor of the special treatment as many of the previous speakers would have us believe.

DR. SIDNEY K. SIMON, New Orleans: Our surgical friends have certainly added much of timely interest and value to the discussion of this important subject. At first it appeared we were going to have merely a love feast with ipecac as almost the sole article of diet. I believe that ipecac is best administered in one large dose, given in the evening, after a three-hours' fast. The plan of giving 5 grains, or 10 or 20 grains, three times a day, is not so good in my opinion as the one large dose. Formerly we also used opiates, but the employment of the salol-covered pill makes this in most instances unnecessary. I agree with Dr. Tuttle about finding the amebas in the warmed stools only. Neither do we find it necessary to strain the feces or to pick out the mucous flakes. On the

contrary, all parts of the stool should be examined, as the mucous flakes do not always contain the largest number of amebas. I was not correctly understood regarding the mortality figures. Fifty cases were reported, mostly from hospital records, and not all my own, so that the treatment varied. In every patient not moribund treated by me with ipecac, the mortality has been nil. There is a certain tendency to recurrence in this as in all bowel infections. This should be explained to the patient with the understanding that perhaps a second course of treatment will be necessary. In one of my cases with a clear amebic history of eight years' standing, there has been no recurrence for one year following the second ipecac treatment. After the patients have once been freed of amebas it is important to instruct them to boil the water they use to obviate the dangers of reinfection. After these patients are cured in the hospitals they might return to their former residence only to become reinfected with the original contaminated water supply. I trust that I have made clear the two points I wished especially to emphasize: the prevalence of the ameba over the entire country, and especially in the south, and the proved value of the ipecac treatment, rendering surgery in most instances unnecessary.

A RATIONAL AND SIMPLE SYSTEM OF SERO-DIAGNOSIS OF SYPHILIS *

HIDEYO NOGUCHI, M.D.
Associate Member of the Rockefeller Institute for Medical Research
NEW YORK

In a rationally constructed complement fixation test the quantity of each reagent should be known and definite. The relative quantities of the different factors used should also be definite and suitable. The reasons why these principles should be respected will be apparent.

First, let us study the properties of hemolytic amboceptor and complement. When present together amboceptor and complement dissolve the blood corpuscles for which the amboceptor used possesses a specific affinity. The process of hemolysis is, however, a quantitative one. To dissolve a given bulk of corpuscles requires a definite amount of amboceptor and complement; and the quantity of these two reagents just sufficient to cause complete hemolysis within a time limit represents the unit of these hemolytic components relatively to each other. Expressed graphically:

1 unit corpuscles + 1 unit amboceptor + 1 unit complement = complete hemolysis.

There exists, however, a peculiar relationship between the requisite amounts of amboceptor and complement necessary to produce complete hemolysis of one unit of corpuscles. If we use more than one unit of amboceptor, less than one unit of complement will be sufficient to cause complete dissolution of the corpuscle mass. So that if, for instance, ten units of amboceptor be added, one-fifth or even less of the unit of complement will be sufficient; or, in other words, the requisite amount of complement can be gradually reduced if the amboceptor quantity is at the same time increased, until finally we reach the minimal amount of complement, to the addition of which no quantity of amboceptor will cause complete hemolysis. With this fundamental fact of the quantitative relationship between complement and amboceptor[1] in mind, it will be evident that the degree of hemolysis does not indicate the *absolute* quantity of complement operative in the hemolytic process. It indicates merely a *relative* quantity which varies with the quantity of amboceptor used in each instance. There-

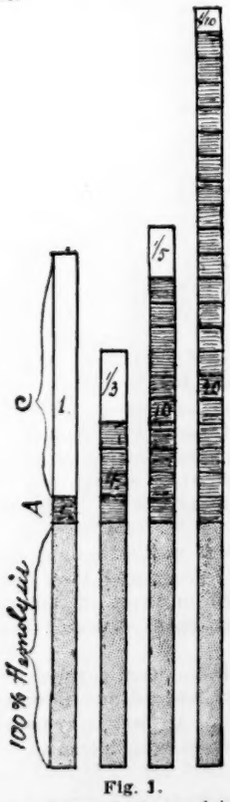

Fig. 1.

Fig. 1.—Shows that complete hemolysis can be produced by using variable proportions of amboceptor and complement. A, amboceptor; C, complement; H, hemolysis. The figures in lined zones indicate the number of units of amboceptor, and those in blank zones, the quantity of complement required in each combination.

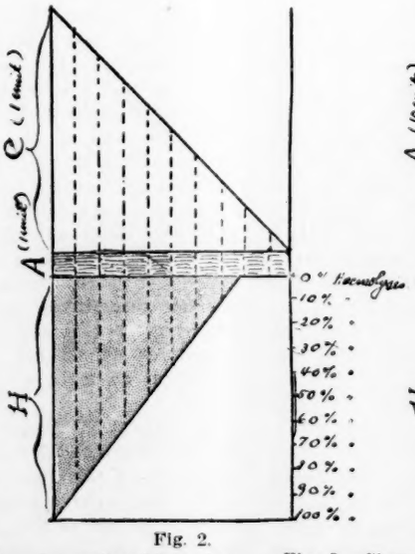

Fig. 2.

Fig. 2.—Shows the decreasing degree of hemolysis by using decreasing quantities of complement with one unit of amboceptor.

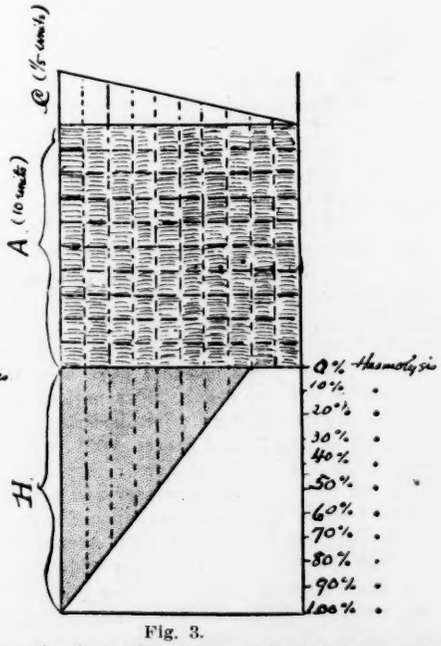

Fig. 3.

Fig. 3.—Shows decreasing degree of hemolysis produced by using less complement and more amboceptor (10 units). These two figures demonstrate that exactly the same degree of hemolysis can be produced by widely different quantities of complement according to the relative amount of amboceptor used.

* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixtieth Annual Session, at Atlantic City, June, 1909.

1. Morgenroth and Sachs: Berl. klin. Wchnschr., xxxix, 817. Noguchi: Jour. Exper. Med., 1906, viii, 87.

fore, no one can measure even approximately the quantity of complement in action, unless he knows the amount of amboceptor present. Without this factor an estimation of the amount of complement by the degree of hemolysis is out of the question (Figs. 1, 2 and 3).

In the complement fixation test the deviation of complement is estimated by the phenomenon of hemolysis. If complement is fixed or deviated there will be no hemolysis, but the absence of hemolysis may be due either to partial or to total fixation of complement. In case of partial fixation the remaining fraction of complement may become sufficiently active to produce complete hemolysis if an excess of amboceptor is present. Thus we can obtain a negative result with a positive syphilitic serum in the presence of such an excess. That such a fallacious reaction is not merely a theoretical possibility but is frequently encountered in practice can be demonstrated experimentally. It is, therefore, absolutely necessary that a definite and appropriate quantity of complement and amboceptor be used in the test. The strength of corpuscle emulsion should also be approximately uniform.

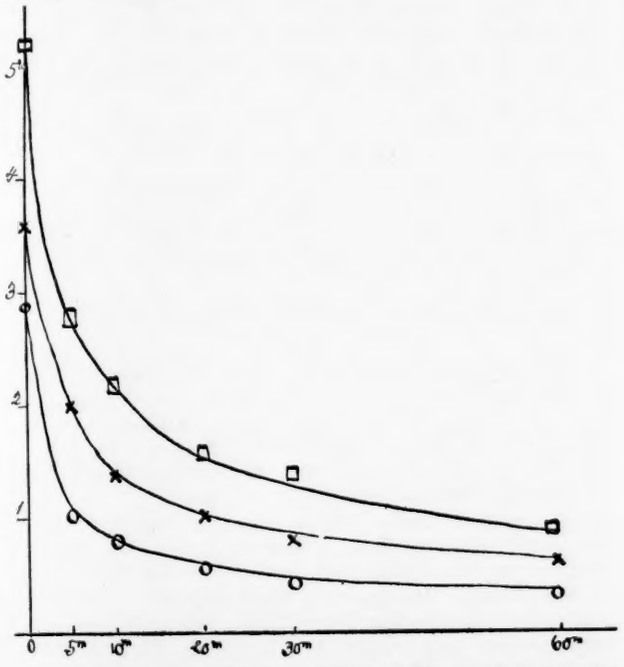

Fig. 4.—Curves indicating destructive influence of inactivation (55° C.) on the syphilitic "antibody." The small squares indicate serum from an untreated secondary syphilis; the crosses indicate serum from a case of chancre; the circles indicate serum from a manifest case of tertiary syphilis. The base line shows the length of time in minutes of exposure of the serums to that temperature. The side line shows the quantity of "the antibody" originally contained in each specimen. The curves show the rapidity of destruction of the antibody.

In regard to antigen, it should be borne in mind that all preparations of this substance possess not only an antigenic property, but also an anticomplementary one, and if the anticomplementary action be present in excess in any given preparation it renders the material unfit for use, because it may cause complete fixation even without the presence of any syphilitic antibody. Therefore, we should select by trial a preparation in which this anticomplementary action is reduced to a minimum and use that dose which does not by itself bind complement, but which will cause complete fixation with the serum of an untreated subject of secondary or tertiary syphilis.

Aqueous extracts of the liver of a congenitally syphilitic fetus contain an excess of antigen over anticomplementary property, as do alcoholic extracts, but in the former the anticomplementary action exceeds that of the latter.

The antigenic property of any tissue is due to certain lipoids present in it, lecithin being but one of a large number of such bodies. The aqueous extract contains, in addition to these lipoids, bodies of a protein and fatty nature, which render it very unstable and subject to rapid disappearance of the antigenic property. The alcoholic extracts, on the other hand, while they contain considerably less anticomplement and are much more stable, rarely deteriorating, may contain hemolytic substances, such as soaps, fatty acids, etc. Fortunately, according to my experience, the antigenic substances can be separated from both the anticomplementary and hemolytic by fractioning the dried alcoholic residue with acetone, the disturbing factors going over in the soluble portion. The insoluble fraction, containing the antigenic property, can be preserved indefinitely as a resinous mass or in alcoholic solution. The latter can then be used as an emulsion in salt solution as required, when, however, it is subject to the same rapid deterioration as the watery extract or the alcoholic extract after the latter has been emulsified for use in doing the test.

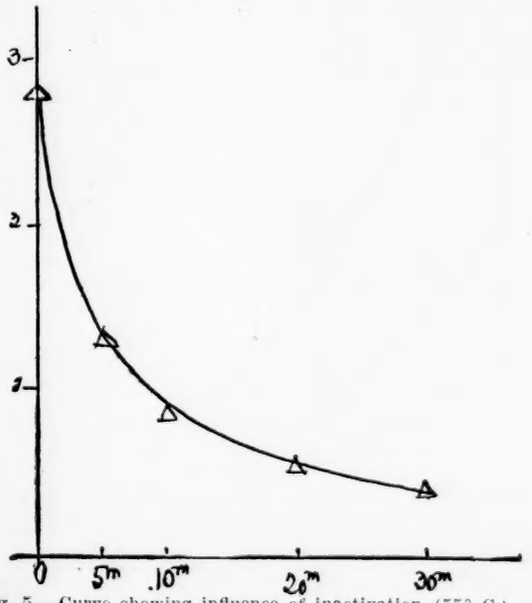

Fig. 5.—Curve showing influence of inactivation (55° C.) on the reacting substance of leprosy serum.

Paper may be impregnated with acetone insoluble fraction of the alcoholic extract, and this paper will retain its antigenic property indefinitely.

It may be said that the irregular and unsatisfactory results from the use of alcoholic extracts can be attributed, at least in part, to the disturbing factors pointed out above and the uncertainty of the concentration of any given preparation. The acetone insoluble fraction, however, as pointed out above, can be dried and definite quantities used. It contains antigenic properties in comparatively pure condition. This acetone insoluble fraction as derived from various organs differs only in quantity, the quality of the preparations being practically the same.

Concerning the quantity of the serum to be tested, it is necessary to distinguish between unheated and heated serum, because inactivation at 56° C. for thirty minutes reduces the antibody content to 20 or 25 per cent. of that originally present in the fresh state. Hence,

to obtain comparable results, it is necessary to use four or five times as much inactivated serum as unheated serum.

In certain systems in order to utilize the patient's own complement the serum is used in considerable quantity in the unheated state (practically as much as is used in the Wassermann system, 0.1 or 0.2 c.c.), and these systems frequently are oversensitive. This source of error can be eliminated by carefully adjusting the dose of serum to be used. Hence the criticism of certain investigators in relation to this point is valid only if an excess of unheated serum is used. I present in Figures 4, 5 and 6 some of the curves of the rate of destruction of the so-called syphilitic antibody by exposure to different temperatures for variable lengths of time. The curves were taken by examining each serum for the antibody content before and after heating by means of complement fixation.

From what has been said above it will be seen that it is essential to analyze each individual factor concerned

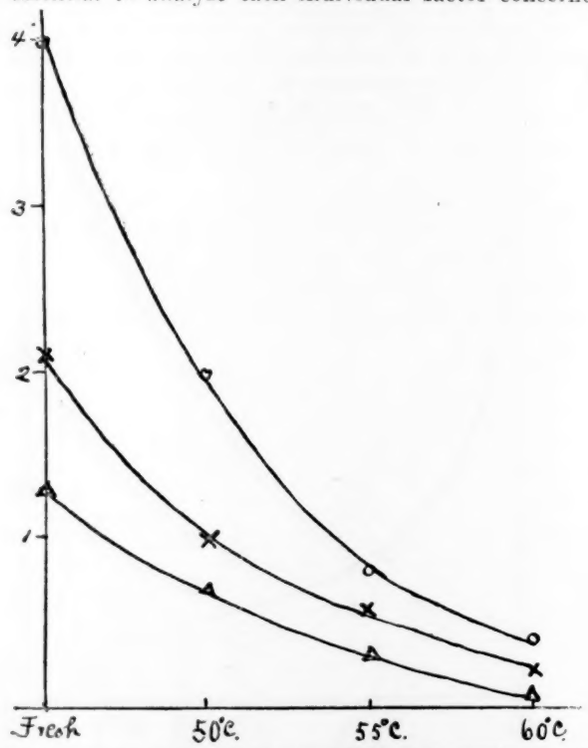

Fig. 6.—Curves showing influence of different temperatures on the syphilitic "antibody." Time of exposure thirty minutes at each temperature. Circles indicate serum from a case of secondary syphilis; crosses indicate serum from a case of primary syphilis; triangles indicate serum from a case of tertiary syphilis.

in the test, to be able to determine, if necessary, its quality as well as its strength. Complement, amboceptor, corpuscular emulsion and antigen should be of known strength. Each of these substances must be separable from the rest, titrable and a proper combination of all should be used.

In the methods introduced to the profession by the various investigators certain defects are inherent and irremovable, as will be pointed out further on, rendering the tests more or less open to objection.

It will be apparent to all that in the complement fixation test we are dealing with variable factors and with reagents subject to deterioration in the hands of the most experienced workers, which will, in a measure at least, account for the discrepancies of the results of different investigators. Hence the value of any system rendering the use of stable reagents possible is evident.

It is my purpose now to consider the various forms of this test as applied to the diagnosis of syphilis.

1. GROUP OF SYSTEMS IN WHICH FOREIGN CORPUSCLES ARE USED

A. Wassermann-Neisser-Bruck System.—Guinea-pig complement titrable and definite. Amboceptor of unknown and variable quantity. From two sources: one irremovably present in the patient's serum and varying from 0 to 20 units, the other added, from rabbits immunized to sheep's corpuscles, two units. Corpuscle suspension (sheep's) definite. Serum to be tested must be inactivated within twenty-four hours before use. Antigen may deteriorate rapidly. Only one fault: the use of an unknown quantity of amboceptor, which, if sufficiently excessive, may render a positive case negative.

B. Bauer's System.—Same as the previous except that it relies on the natural anti-sheep amboceptor of human serum. Occasional absence of this factor adds a further defect.

C. Hecht's System.—Relies on complement and amboceptor present in patient's serum; hence both factors unknown, untitrable, inseparably mixed. In a syphilitic serum no direct way to estimate accurately the anticomplementary strength of antigen alone because of presence of syphilitic antibody. Test must be made within twenty-four hours, because complement gradually diminishes. Washed sheep's corpuscles used. The amount of patient's serum comparatively too large, but can not be reduced, as it would also reduce the amount of complement at the same time. All defects of the foregoing systems as well.

D. Stern's System.—Same as C, except that immune anti-sheep amboceptor is added. Similar defects.

E. Detre's System.—Rabbit complement. Immune anti-horse amboceptor in definite quantity. Washed horse corpuscles. Inferior sensitiveness of rabbit's complement to fixation, and occasional presence of the natural amboceptor in the serum to be tested.

2. GROUP OF SYSTEMS IN WHICH HUMAN CORPUSCLES ARE USED

A.—Tschernogubow's System.—Patient's blood directly dropped into saline solution. Complement, corpuscles and antibody, if present, all in same medium. None of these three factors titrable because inseparable. Specimen must be examined within twenty-four hours. Quantity of various factors inadjustable. System discarded by its author.

B. Noguchi's System.—Each factor is separable, titrable, definite. The proportional quantity of each factor adjustable. Complement from guinea-pig.[2] Can be used in fresh as well as dried state. Latter more stable; former preferable if obtainable. Amboceptor from rabbit immunized to human corpuscles and can be used in liquid state as well as dried on paper; latter more stable. Corpuscle suspension can be made from the blood of patient or any normal individual. Removal of serum by washing corpuscles preferable but not necessary unless fibrin ferment present. Patient's serum can be used in fresh, old or inactivated state and if necessary serum can be dried on filter-paper and examined after an indefinite length of time. Antigen prepared from normal or syphilitic tissues by alcoholic extraction and subsequent acetone fractionation. Can be made more stable by impregnating filter-paper. No danger of introducing excess of amboceptor or complement. Quantity of serum to be tested is very small and so adjusted as to avoid oversensitiveness. *When inactivated, four to five times the amount used.* Test, like all the others, requires a trained man, but not a fully equipped laboratory as is necessary with all the other systems. For details consult my previous publications.[3]

In a paper read before the Section on Nervous and Mental Diseases of this Association at this session,[4] I reported the results of about 1,800 cases analyzed by my

2. The complement contained in human serum is so weak that it does not interfere with the test.

3. Jour. Exper. Med., 1909, xi, 392; München med. Wchnschr., 1909, lvi, 494.

4. THE JOURNAL A. M. A., Sept. 18, 1909.

system and 600 cases by the original Wassermann method, together with a comparative study of 244 cases examined by both these methods.

The Wassermann method is cumbersome and requires elaborate facilities and considerable experience for its proper execution and is utilizable in practice only to a limited extent.

The method which I have worked out is simple, requires a small and inexpensive equipment, can be applied after a little instruction, and, above all, gives a result more uniform and reliable.

SOME STUDIES OF THE PRECIPITIN TESTS FOR SYPHILIS *

HENRY S. WIEDER, M.D.

AND

EDWARD M. L'ENGLE, M.D.

Demonstrator of Surgical Pathology, and Demonstrator of Pathology, Respectively, in the Medico-Chirurgical College

PHILADELPHIA

Since the epoch-making discovery of the *Treponema pallidum* by Schaudinn interest in the scientific diagnosis of syphilis, as opposed to the clinical diagnosis, has received a remarkable impetus, so that to-day almost all the more important laboratories of the world have some of their workers devoting their attention to this subject.

Probably the first and most successful result of these numerous investigations was the test described by Wassermann and since confirmed by numerous other investigators, using his test or some modification of the same. The results obtained by Wassermann and those using his test have been remarkably good, from 78 to 88 per cent. of syphilitic and parasyphilitic cases giving a positive reaction, whereas the non-syphilitic cases are negative in practically all, except some advanced cases of tuberculosis, carcinoma and sepsis.[1]

While these tests are extremely valuable from the scientific point of view, they are absolutely useless to the general practitioner and to the average laboratory worker owing to the complicated technic. The practical applicability of this test has probably been obtained recently by Noguchi with his simplified tests by the means of saturated papers, the complicated portion of the technic being performed in well-equipped commercial laboratories and the results of this work handed to the practitioner in condensed form.

Before Noguchi had elaborated this modification of the Wassermann test other investigators had been trying to simplify it by eliminating one or more factors in the experiment. The first and only modification which has any bearing on our work was when it was found that an alcoholic extract of syphilitic liver of a fetus would answer the purpose of an antigen as well as fresh extract of syphilitic fetal liver and could be preserved indefinitely. This discovery led to the investigation as to what could be the active factor in this alcoholic extract; it was found to contain merely bile salts.

Utilizing these bile salts, an effort was made still further to simplify the test by eliminating the necessity of demonstrating the deviation of the complement and endeavoring to obtain some direct specific action between the serum of syphilitic patients and solutions of the various bile salts. The reaction that was found to occur was the formation of precipitates which, according to some, were found to form earlier in syphilitic cases than in normal cases, and also to differ slightly in character. Preeminently among those claiming specificity for this reaction, especially with a bile salt called taurin, is Varney of Detroit. By his method he believes it possible to determine the presence of syphilis in about 87 per cent. of cases and believes that it is possible to determine if patients that have positively had syphilis and have been treated, have been cured.

Klausner, antedating Varney, found that he could obtain a precipitate early in 100 per cent. of syphilitics by the addition of 0.7 c.c. of distilled water to 0.2 c.c. of serum. He found, however, that a certain proportion of cases not syphilitic gave a similar reaction. These cases were mostly acute febrile conditions, so that they would not be liable to lead to confusion, therefore making the test of considerable value from his point of view. He considers the precipitate to be composed of globulins, which are present in excess in syphilis, and therefore thrown down early.

It is for the purpose of confirming, if possible, the above experiments that the studies were undertaken on which this article was based. Five different sets of experiments have been performed in which the following aqueous solutions have been used: 1 per cent. taurocholate of sodium, 1 per cent. glycocholate of sodium, 1 per cent. lecithin, 1 per cent. taurin and distilled water. In all, 54 cases were studied: 11 secondary syphilitics, 5 tertiary syphilitics, 18 parasyphilitics (17 paretics and 1 tabetic) and 20 non-syphilitics, including 2 cases with jaundice, 1 tuberculous peritonitis, 1 puerperal case, 1 suppurative appendicitis, 3 neurasthenics, 1 case of sciatica, 1 case of chancroid with adenitis, 1 case of gonorrhea, and 10 practically normal. These cases were obtained through the kindness of the chiefs at the Philadelphia General Hospital and Insane Department; also at the Medico-Chirurgical Hospital and the Genitourinary Department of the Polyclinic Hospital, and we wish to express our gratitude to all of these for permission to study the cases.

Altogether, 253 observations were made, including all experiments. The experiments consisted in adding one drop of serum to seven drops of the reagent. Observations were made from five to seven and one-half hours later and then at the end of eighteen hours. In our conclusions, we have found that the observations made at the end of eighteen hours are of no value, as practically all cases give identical results in that time, so these observations have been ignored.

In the majority of cases, the experiments were set up by one of us and the observations made by the other alternately, the one observing having no knowledge of the cases studied.

EXPERIMENTS IN DETAIL

In the taurocholate, glycocholate, taurin and water experiments, the final result usually obtained was a precipitate, almost invariably flocculent in character; at times, light and diffused through the liquid; at other times, heavy and settled at the bottom of the tube. Sometimes both characters of precipitates were present.

The precipitates varied in amount from abundant to moderate or very slight in amount. In most cases the precipitates were tenacious, resisting ready diffusion throughout the liquid, but rising by a spiral movement and showing a marked tendency to remain in the center

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixtieth Annual Session, at Atlantic City, June, 1909.

* From the Laboratories of Pathology and Surgical Pathology of the Medico-Chirurgical College of Philadelphia

1. Marchildon, J. W.: A Comparison of Alcoholic and Watery Extracts in the Serum Diagnosis of Syphilis, THE JOURNAL A. M. A., 1908, li, 2149.

of the tube. No amount of agitation would cause these precipitates to dissolve. Other experiments showed a much finer precipitate which did not show the same tenacity and frequently would disappear on agitation.

Owing to the character of the lecithin solution, which formed a cloudy emulsion, the observations had to be varied somewhat. The most characteristic change noted was a tendency to separation of the emulsion and central accumulation of the solid particles, while the fluid becomes clear. All stages could be noted from a perfect emulsion with uniform cloudiness to the formation of a dense, compact sediment and perfectly clear supernatant fluid.

TABLE 1.—TAUROCHOLATE EXPERIMENTS

SECONDARY SYPHILIS (14 Cases)

	Per cent.
Tinged	14.2
Cases showing flocculent precipitates	85.7
Precipitates:	
Tenacious	76.9
Non-tenacious	23.1
Slight or moderate in amount	100
Light in character	100

TERTIARY SYPHILIS (5 Cases)

	Per cent.
Tinged	0
Cases showing flocculent precipitates	60
Precipitates:	
Tenacious	66
Non-tenacious	33
Slight or moderate in amount	100
Light in character	100

PARASYPHILITIC CASES (18)

	Per cent.
Tinged	27.7
Cases showing flocculent precipitates	100
Precipitates:	
Tenacious	88.8
Non-tenacious	11.2
Slight or moderate in amount	77.8
Abundant	22.2
Light in character	100

SUSPECTED SYPHILIS

One case showed light, moderate, tenacious precipitates.

NON-SYPHILITIC CASES (14)

	Per cent.
Tinged	7.6
Cases showing flocculent precipitates	95.7
Precipitates:	
Tenacious	84.6
Non-tenacious	15.4
Slight or moderate in amount	84.6
Abundant	15.4

TABLE 2.—GLYCOCHOLATE EXPERIMENTS

SECONDARY SYPHILIS (13 Cases)

	Per cent.
Tinged	14.4
Cases showing flocculent precipitates	46.1
Precipitates:	
Cloudy	46.1
Tenacious	100
Abundant	16.6
Slight or moderate in amount	83.4
Heavy	16.6
Light in character	83.4

TERTIARY SYPHILIS (5 Cases)

	Per cent.
Tinged	0
Cases showing flocculent precipitates	80
Precipitates:	
Cloudy	40
Tenacious	75
Non-tenacious	25
Slight or moderate in amount	100
Heavy	25
Light in character	75

PARASYPHILITIC CASES (14)

	Per cent.
Tinged	8
Cases showing flocculent precipitates	85.7
Precipitates:	
Tenacious	100
Slight or moderate in amount	92
Abundant	8
Light in character	100

SUSPECTED SYPHILIS

One case showed slight, tenacious, light, flocculent precipitate.

NON-SYPHILITIC CASES (15)

	Per cent.
Tinged	21.4
Cases showing flocculent precipitates	93.3
Precipitates:	
Tenacious	71.7
Non-tenacious	28.3
Slight or moderate in amount	78.6
Abundant	21.4
Heavy in character	21.4
Light in character	78.6

TABLE 3.—LECITHIN EXPERIMENTS

SECONDARY SYPHILIS (13 Cases)

	Per cent.
Tinged	7.7
Cases showing clumping	30.7
Cases showing no clumping	69.3
Cases with clumping, showing clear supernatant fluid	75
Cases with clumping, showing cloudy supernatant fluid	25

TERTIARY SYPHILIS (5 Cases)

	Per cent.
Tinged	0
Cases showing no clumping	100

PARASYPHILITIC CASES (16)

	Per cent.
Tinged	0
Cases showing clumping	68.7
Cases showing no clumping	31.3
Cases with clumping, showing clear supernatant fluid	54.5
Cases with clumping, showing cloudy supernatant fluid	45.5

NON-SYPHILITIC CASES (14)

	Per cent.
Cases showing clumping	21.4
Cases showing no clumping	78.6
Cases with clumping, showing clear supernatant fluid	33.3
Cases with clumping, showing cloudy supernatant fluid	66.7

TABLE 4.—TAURIN EXPERIMENTS

SECONDARY SYPHILIS (16 Cases)

	Per cent.
Tinged	18.7
Cases showing flocculent precipitates	93.7
Precipitates:	
Tenacious	86.6
Non-tenacious	13.4
Abundant	6.6
Slight or moderate in amount	93.4
Heavy in character	12.5
Light in character	87.5

TERTIARY SYPHILIS (5 Cases)

	Per cent.
Tinged	0.
Cases showing flocculent precipitates	80
Precipitates:	
Tenacious	100
Slight or moderate in amount	100
Heavy in character	50
Light in character	50

PARASYPHILITIC CASES (17)

	Per cent.
Tinged	31.2
Cases showing flocculent precipitates	94.1
Precipitates:	
Tenacious	100
Abundant	18.7
Slight or moderate in amount	81.3
Heavy in character	50
Light in character	50
Both heavy and light in character	18.7

NON-SYPHILITIC CASES (18)

	Per cent.
Tinged	0
Cases showing flocculent precipitates	88.8
Precipitates:	
Tenacious	37.5
Non-tenacious	62.5
Abundant	31.2
Slight or moderate in amount	68.8

TABLE 5.—WATER EXPERIMENTS

SECONDARY SYPHILIS (14 Cases)

	Per cent.
Tinged	14.3
Cases showing flocculent precipitates	35
Precipitates:	
Tenacious	60
Non-tenacious	40
Abundant	40
Slight or moderate in amount	60
Light in character	100
Heavy in character	0

TERTIARY SYPHILIS (5 Cases)

In only 1 case was 2 drops of serum used, and this showed an abundant tenacious precipitate. The remaining 4 cases were negative, only 1 drop of serum having been used.

PARASYPHILITIC CASES (17)

	Per cent.
Tinged	7.6
Cases showing flocculent precipitates	76.4
Precipitates:	
Tenacious	100
Slight or moderate in amount	100
Heavy in character	84.7
Light in character	83.7
Both heavy and light in character	15.3

NON-SYPHILITIC CASES (14)

	Per cent.
Tinged	7.1
Cases showing flocculent precipitates	50
Precipitates:	
Tenacious	29.5
Non-tenacious	71.5
Slight or moderate in amount	100
Light in character	100

From our observations we have come to the conclusion that with the taurocholate, glycocholate, taurin solution and the distilled water, a positive reaction consists of a light or heavy flocculent tenacious precipitate which does not dissolve on agitation; whereas we consider as positive a lecithin experiment in which the emulsion separates with the formation of dense central clumps and clear or almost clear supernatant fluid. A study of the cases in detail on this basis shows the following facts:

In the taurocholate tests, we found that the parasyphilitics gave the highest proportion of positive reactions, then the non-syphilitics, those with secondary syphilis and finally those with tertiary syphilis. It is possible that the proportion is highest in the parasyphilitics, because there was a slightly larger portion of these cases in which the serum showed some hemolysis or blood-tinging. We believe, however, that this is improbable, as all cases showing much tinging of the serum were rejected.

In the glycocholate experiments, again the parasyphilitics gave the highest proportion of positive reactions, then the non-syphilitics, the tertiary syphilitics, and finally the secondary syphilitic cases.

In the lecithin experiments, the parasyphilitics show more than twice as great a proportion of positive reactions as any other series of cases; then come the cases of secondary syphilis; the non-syphilitics and finally the tertiary syphilitic cases gave no positive reactions. One of the non-syphilitic cases giving a typical reaction was a case of hypertrophic cirrhosis, in which the blood evidently contained bile salts. The patient was deeply jaundiced.

In this series, the number of positive reactions were too few to be of great value.

The results with taurin are somewhat better than with the other bile salts. Again, the parasyphilitic cases gave the highest proportion of positive results. The secondary syphilitic cases showed a slightly smaller proportion, then the tertiary syphilitic cases, and finally the non-syphilitic cases with about one-third as many positive reactions distributed equally between normal and other cases.

In the water experiments, we regret to state that, owing to inability to obtain the original of Klausner's article, we were not aware of his exact technic, but followed the same technic as in the other experiments, except in about a dozen cases in which we doubled the proportions of serum, making it correspond with the proportions used by Klausner. In the series in which this was done, the proportionate final results were practically identical, so that we feel that our methods will give the same results as the Klausner technic.

The results are as follows: The parasyphilitics again gave a very much higher proportion of positive tests. The secondary and tertiary syphilitics and the non-syphilitics gave an almost equal proportion of positive results, though in all the proportion was but about one-third of that in the parasyphilitic cases.

CONCLUSIONS

As a result of the foregoing observations, we are led to believe that none of these tests gives the practitioner a short road to the diagnosis of syphilis. They may be of some scientific interest, especially on account of the high proportion of positive results in parasyphilitics in each set of experiments, but the proportion of positive results in non-syphilitics is too high to make the test of value. Of the solutions used, taurin seems the best.

2131 No. Fifteenth Street—132 So. Twenty-third Street.

SERODIAGNOSIS OF SYPHILIS*

WILLIAM LITTERER, A.M., M.D.
NASHVILLE, TENN.

The scientific medical world is ever ready to herald any advancement in the refinement in diagnosis of this world disease, especially in view of the fact that there is probably no infection which at times offers greater difficulties in diagnosis than syphilis. It is true that the therapeutic test is valuable, but it falls far short of being a practical and scientific diagnostic measure. The confirmation from many workers as to the utility of the serum test seems now to have reached a stage where it can be used as an actual laboratory aid in diagnosis. In 1906 Wassermann, Neisser and Bruck[1] published a series of experiments demonstrating *in vitro* syphilitic antibodies in blood serum and specific material in syphilitic tissues. Later, Wassermann and Plaut[2] found syphilitic antibodies in the spinal fluid of 78 per cent. of 41 cases of progressive dementia.

This was the first application in clinical medicine and has ever since been known as the "Wassermann syphilitic reaction." Wassermann and others showed that in the serum of syphilitic apes a substance was produced which was not present in normal serum, and later they discovered that when the blood serum of syphilitic individuals was added to liver extracts of a luetic still-born the complement was anchored.

The researches of Bordet and Gengou in 1901 paved the way for this reaction, since the principle consists in the binding of the complement, a phenomenon first observed by these investigators on emulsions of bacteria.

It is a well-established fact that if the blood of an animal (A) should be injected every seven or eight days, for several inoculations into another of a different species (B). the serum of the latter will disintegrate the red blood corpuscles of the former, producing what is known as hemolysis. The dissolution of the red blood cells is dependent on two substances; neither can act without the other. One of these is always present in any blood serum, and is called the complement. It is thermolabile, i. e., its destruction occurs when heated to 58 C. for one-half hour. By heating, said serum is rendered "inactive"; hence the term "inactivated" is used when the complement is destroyed. The other substance necessary for hemolysis, known as an antibody or hemolytic amboceptor, results from the reaction of the injected animal against the injected blood cells. It is thermostable, i. e., it withstands heating to 58 C. There are vast numbers of antibodies. No two are identical. They are specific and are the reaction product formed in the blood of an animal when a given substance, toxic or otherwise, is injected into it. So all substances, which, when injected into animals, are capable of producing antibodies, are, in general, called "antigens." If typhoid bacilli were injected into a guinea-pig every seven or eight days for several weeks, there will appear in the guinea-pig's serum a substance that will dissolve typhoid bacilli. This substance contains two bodies: (1) complement and (2) bacteriolytic amboceptor or antibody, which is analogous to the substance produced by the injection of red corpuscles into an animal of another species, but differing materially in their antibodies. These substances contain identical complements which are always present in any animal. The antibodies are manufactured as the result

* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixtieth Annual Session, at Atlantic City, June, 1909.

1. Wassermann, Neisser and Bruck: Deutsch. med. Wchnschr., 1906, No. 19.
2. Wassermann and Plaut: Deutsch. med. Wchnschr., 1906, No. 44.

of an introduction of an antigen (typhoid bacilli or red corpuscles); hence are specific. The serum from the typhoid guinea-pig will not dissolve the erythrocytes nor will the serum from the immunized animal with red cells disintegrate the *Bacillus typhosus*. Bordet and Gengou took advantage of the above facts to determine the nature of an infection by mixing the inactivated serum obtained from an animal suffering from some bacterial disease with the bacteria (antigen) producing the affection and then added complement (guinea-pig serum). The above mixture was allowed to stand for about three-quarters of an hour and then red blood corpuscles plus its hemolytic amboceptor or antibody were added. If no hemolysis occurred it was due to the fact that there had already been a binding of the complement, the antigen and bacterial amboceptor being homologous. Hemolysis would take place in case the serum contained no amboceptor against the bacterial emulsion, thus rendering the complement available for the hemolytic amboceptor. It is evident from the above reactions that it is possible to demonstrate not only antibodies in the serum containing them, but also the substance (antigen) that gives rise to their formation.

Wassermann, Neisser and Bruck[3] applied the above principle to the demonstration of antibodies in the serum of persons suffering from syphilis. They employed for their antigen an alcoholic extract of syphilitic organs obtained from a luetic still-born. Marie and Levaditi found that a similar reaction, though a weaker one, could be produced with extracts from normal liver. Later, Michaelis, Fleischmann, Weil, Plaut, Volk and others showed that antigens for syphilitic serums were found in non-luetic organs. Landsteiner, Müller and Potzl[4] used extracts of guinea-pig heart as antigen, and found that their positive results coincided with the congenital luetic liver extract. This discovery is of great practical importance, as it will prove of inestimable advantage in promoting the availability of the Wassermann reaction, because the guinea-pig's heart can be secured with great readiness, while the congenital luetic organs are, at times, quite difficult to procure. Wassermann conceived the idea that these substances must be very similar to the lipoid bodies because of the solubility in alcohol of the active constituent from various organs. He directed Porges and Meier[5] to experiment with lecithin, and, in fact, found that the complement was anchored with syphilitic serums. Landsteiner and Müller discovered independently that lipoid substances, especially lecithin, produced this reaction. Potzl, Sachs and Altmann found that sodium oleate solution also acted similarly. Other substances, such as cholesterin, glycogen, sodium glycocholate and taurocholate, etc., were likewise found to react. Though Wassermann regarded this reaction at first as denoting the presence of antibodies in syphilitics and of antigens in luetic organ-extract, neither he nor his pupils in their later communications regard it in the sense of a recuperative reaction. Michaelis is of the opinion that "the Wassermann reaction does not reveal the presence of antibody against the cause of syphilis or its poisons, but some other substances which have no direct connection with the cause of syphilis, but which are found more abundantly in, or more easily extracted from, syphilitic organs than from normal ones." It is readily apparent that the lipoid element in this reaction does not depreciate its value; on the contrary, it may explain the lipoid degeneration in parasyphilitic diseases. The diagnostic value of the reaction in several thousand cases examined by the best authorities surely establishes it of distinct value, despite laboratory criticisms concerning its actual scientific foundation. In performing my tests I have employed only a few times the lipoid bodies, as lecithin, cholesterin, etc., preferring to use guinea-pig heart extract in the reaction with luetic serums.

The substances employed in the Wassermann reaction briefly[6] stated are as follows: (1) blood serum of suspected luetic (inactivated); (2) organ extract (luetic liver or guinea-pig heart macerated, extracted with alcohol and inactivated); (3) complement (guinea-pig serum, not inactivated); (4) washed sheep's blood corpuscles—sheep's blood defibrinated and washed with normal salt solution about three times, and, finally, put up in 5 per cent. and 50 per cent. strength with normal salt solution, used for dilution; (5) hemolytic serum obtained by injecting a 5 per cent. sheep's blood corpuscles into a rabbit every eight or ten days, for about four or five times; about ten days after the last injection blood is removed from heart and serum collected and inactivated.

It is absolutely imperative that, before the actual performance of the reaction, all material to be used should be tested (1) to standardize the amboceptor, (2) to see that extract does not alone anchor the complement or hemolyze the sheep's corpuscles, (3) to see that the complement is active.

In every test it is necessary to employ a few known syphilitic and as many normal serums to serve as controls for the suspecter sera. Sometimes uncertainties arise in determining the result of the reaction, but in practically every instance it is traceable to failures of sufficient controls and the proper use of materials. In doubtful reactions, a second or third test should be estimated with careful controls and using different antigens. It is not necessary to explain in detail the entire reaction, especially since there have been so many excellent articles of late written on the subject. The carrying out of this reaction, as it should be conducted, unfortunately is attended with difficulties which may discourage many who undertake it. There is no question but that a modification of the method that will furnish us an easy and accurate diagnosis is very much to be sought for. Many investigators have attempted to simplify the method, but thus far no great step has been successfully accomplished toward this end until quite recently.

Noguchi[7] describes a simplification of this test so sweeping that it practically eliminates all the technical difficulties and places it within the reach of any well-trained laboratory man. His new method is based on the same principle as Wassermann's and utilizes the Bordet-Gengou phenomenon of complement-fixation to determine the presence of syphilitic antibody in a given specimen of blood serum or cerebrospinal fluid. It is quite different from the Wassermann method, in that an anti-human hemolytic system instead of antisheep hemolytic system is used. The original Wassermann method is subject to an error arising from a varying amount of natural amboceptor found in human serum, which is capable of being reactivated by guinea-pig's complement. The Noguchi modification eliminates this source of error, since it enables one to detect the presence of even a fractional part of one unit of syphilitic antibody in a

3. Wassermann, Neisser and Bruck: Deutsch. med. Wchnschr., 1906, No. 32.
4. Landsteiner, Müller and Potzl: Wien. klin. Wchnschr., 1907, No. 20.
5. Porges and Meier: Berl. klin. Wchnschr., 1907, No. 44.
6. A more detailed account of the technic of the reaction will be found in a most excellent article by Butler: THE JOURNAL A. M. A., Sept. 6, 1908, li, 824.
7. Noguchi: Jour. Exper. Med., March 1, 1909.

given specimen. There are two different ways of applying the test: "In one, the reagents are employed in liquid form, and in the other they are used in a dried state on filter-paper." This latter way is accomplished by saturating filter-paper, when in solution, with (1) antihuman hemolytic amboceptor; (2) the guinea-pig complement; (3) antigen (organ extract). The papers are dried and standardized.

For further details Noguchi's original article[7] may be consulted. I have employed this method about fifteen times, using the reagents in liquid form.

There were a few minor points that Noguchi did not make entirely clear, but, on the whole, I had no difficulty in following it. From the little experience that I have had with the test, I can in the main confirm Noguchi's contentions with reference to the simplicity as well as to the delicacy of the test as compared with the original Wassermann. There were seven cases (of male negroes) in which doubtful reactions were obtained by the original Wassermann reaction. The modified method showed that these seven gave very positive reactions. In two cases very positive reactions were obtained, in which no history of syphilis, either acquired or congenital, could be obtained; the subjects were perfectly healthy, and their physical examination resulted negatively. The original method was negative in both cases. It is barely possible that such a test is too delicate; many more tests are necessary, however, in order to decide such a question. I have used the much simpler precipitate tests with lecithin, sodium glycocholate, taurine and other bile salts and shall discuss them in detail in another article. The precipitate tests are not considered as reliable as the Wassermann reaction. They are based on entirely different principles. The bulk of my work in the last twelve months has been with the original Wassermann reaction. They are as follows:

REPORT OF REACTIONS

Forty-six presumably healthy white men, giving no history of syphilis, were examined by the original Wassermann method. All the reactions were negative, save two which were recorded as doubtful; subsequent tests, using different antigens, still showed doubtful reaction.

1. The first case showing this doubtful test was that of a man aged 24, height 5 feet 10 inches, weight 160 pounds. He had all of the diseases incident to childhood; contracted typhoid fever at the age of 15, and smallpox at 19; he was otherwise healthy all of his life. He denied all venereal diseases. No glandular involvement or scars on genitalia or elsewhere could be discerned. He had never had sore throat. Hereditary syphilis could not be absolutely excluded.

2. The second patient, in whom a doubtful reaction was recorded, was a man, aged 20, height 5 feet 8 inches, weight 145 pounds. He had all of the diseases of childhood save pertussis; at 18 years contracted lobar pneumonia, from which he was several months in recovering. Since then he had been in excellent health. He had gonorrhea twice, but denied lues. There was no glandular involvement in any part of the body; no discernible scars on genitalia; no history of sore throat or eruptions on body. His father contracted syphilis when 19 and married at 21, only taking six months of antiluetic treatment.

Of the forty-six apparently healthy, colored male adults giving no history of syphilis, and having no scars on their genitalia or elsewhere, five gave a positive Wassermann reaction and ten gave doubtful reactions. There were two groups of the forty-six cases that were examined. The first group consisted of twenty-five negroes who lived in the country. The second group, numbering twenty-one, represented the city negro. Of the country negroes only one showed the positive Wassermann, and three the doubtful reactions. In the three cases which were doubtful by the original Wassermann, the Noguchi modification proved distinctly positive. All of these cases showed glandular involvement. In these cases I was unable to exclude hereditary syphilis. In the city negroes, numbering 21, 4 showed the positive Wassermann, while 7 gave doubtful results. The Noguchi modification proved to be positive in all seven of the doubtful cases. All of these negroes claimed to be perfectly healthy and denied any syphilitic trouble. No scars on their genitalia could be discerned. There was no history of sore throat or body eruptions. In the 4 positive cases and in 5 out of the 7 doubtful ones there was slight enlargement of the lymph nodes. The remaining two subjects were perfectly normal. Congenital syphilis could not be excluded in any of these cases.

It is evident from the above that a good percentage of the city negroes have syphilis, either acquired or congenital, and do not know it, or else their statements could not be depended on concerning this affection. In the country negro, this disease is comparatively rare as compared to the city negro.

Out of 58 non-luetic cases of various diseases, I obtained a positive reaction in two cases of advanced carcinoma, one of advanced sarcoma and one of hydrophobia, and one of profound malaria (estivoautumnal). The following is a detailed report showing the various diseases in which the reaction was tried:

3 cases	scarlet fever	negative reaction
8 cases	lobar pneumonia	negative reaction
5 cases	typhoid fever	negative reaction
3 cases	advanced tuberculosis	negative reaction
4 cases	moderate tuberculosis	negative reaction
5 cases	incipient tuberculosis	negative reaction
2 cases	advanced carcinoma	positive reaction
3 cases	malaria tertian	negative reaction
2 cases	lupus	negative reaction
2 cases	carcinoma	negative reaction
2 cases	sarcoma	negative reaction
1 case	advanced sarcoma	positive reaction
1 case	amebic dysentery	negative reaction
1 case	tetanus	negative reaction
2 cases	diphtheria	negative reaction
1 case	hydrophobia	positive reaction
2 cases	acute nephritis	negative reaction
4 cases	chronic nephritis	negative reaction
2 cases	furunculosis	negative reaction
2 cases	abscess	negative reaction
2 cases	infected gall bladder	negative reaction
1 case	malaria (estivoautumnal)	positive reaction

These cases were obtained from the Nashville City Hospital, the Vanderbilt Medical Hospital, and a few from private patients of physicians. The two carcinoma cases that gave positive reactions show the following history:

The first patient, a white woman, married, aged 57, mother of three children, had had the diseases incident to childhood; denied all venereal trouble. There was no glandular involvement or throat trouble, and no eruption on skin. One year and a half ago, a diagnosis of carcinoma of cervix was made by microscope. She is now in the last stages of carcinomatous disease. Recently her blood was withdrawn and a Wassermann reaction resulted positively.

The second patient, a white woman, married, aged 50, mother of two children, also denied all venereal trouble. There was no glandular involvement or throat trouble; no history of rash on body. The patient had pneumonia when about 22, and when about 40 years old contracted grip. She noticed a tumor in her breast two years ago, which was removed and pronounced to be carcinoma on microscopic examination. Recurrence resulted and a second operation was performed. The patient is now in the last stages of this disease, and her blood has shown on three different occasions a positive Wassermann reaction.

The third case is one of advanced sarcoma, occurring in a white man, aged 26, who had always been healthy, save for the diseases of childhood. He denied all venereal trouble. There was no glandular involvment or history of sore throat,

or skin eruption. About one year ago the patient noticed a small tumor, size of hazel-nut, on inner aspect of leg. The tumor was examined by microscope, which showed sarcoma. Amputation advised but patient refused. Several months later a general sarcomatosis developed. The Wassermann reaction was positive two different times.

The fourth case was that of hydrophobia occurring in a married white man, aged 35, who had always been healthy. He denied syphilis, but said that he had had gonorrhea. He was bitten on the hand by a rabid dog; three months later developed typical symptoms of hydrophobia. After his death, I obtained sufficient amount of blood for the Wassermann test, which was positive. The case was proved to be hydrophobia by the finding of the Negri bodies in the brain, and by the inoculation test.

The fifth case was one of malaria (estivoautumnal) occurring in a white married man, aged 27, who contracted pneumonia when 18 and at 24 had a severe attack of grip. He denied syphilis, but had had gonorrhea. For the past twelve years he had malaria. When the blood was obtained, the patient was suffering from a profound attack of estivoautumnal type of malarial poisoning, from which the patient died in two days. The Wassermann reaction was positive.

In 88 per cent. of 80 cases of active syphilis, primary and secondary, the reaction was found positive. The comparatively low positive results are due, perhaps, to the fact that three patients who gave negative reactions had received antisyphilitic treatment at the time the test was made.

I conclude by stating that more than 90 per cent. of cases of active syphilis give the reaction. The occasional reaction in other diseases lessens the diagnostic value of the test very little, if at all. The Noguchi modification is apparently more delicate than the original Wassermann. I am of the opinion that a good percentage of the city negroes of the south giving negative syphilitic histories will show a positive Wassermann reaction as modified by Noguchi, since many have hereditary syphilis.

Fifth Avenue and Elm Street.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. NOGUCHI, WIEDER AND L'ENGLE AND LITTERER

DR. MAXIMILIAN HERZOG, Chicago: The serodiagnosis of syphilis has certainly assumed great importance from the standpoint of the clinician. Many thousands of tests are reported from Europe, four clinics there alone reporting investigations in over 10,000 cases. What we know concerning the clinical importance of that test is based on the original Wassermann test. The modifications of this test proposed have all been shown to be defective. Dr. Noguchi referred to some remarks I made in another section when I stated I had tried the Bauer modification and had finally given it up. I did so on account of the great variability of the amboceptor-content in human serum. On the average, in a majority of cases, this variability is not so great; but there are some cases which show an enormous amount of hemolytic amboceptor, and some with none at all.

Some of the objections to Dr. Noguchi's modification that I consider valid are the following: He uses several of the substances necessary in a dry state and gives rules by which to prepare them in such a dry condition. Now, he has made the point that in his test all the quantities are known; yet I have seen in his article in the *Münchner med. Wochenschrift* the statement that non-heated human serum frequently has an anti-complemental effect as to the guinea-pig's serum complement. If, therefore, you have such a serum and have made the test, you have no hemolysis and you do not know where you stand. Dr. Noguchi's reply to this objection is that you must reduce the amount of human serum; but in this he disregards his own principle, which says that the test must be made with absolutely equal quantities. Hence, I think that it will finally be found that his test has serious defects, as have other modifications of the Wassermann test. I do not want to decry Dr. Noguchi's excellent work; but I wish to say that when we are using the serodiagnosis of syphilis for the benefit of the clinician we ought to stick, for the time being, at least, to the Wassermann test. The point that I urge against Noguchi's modification is that it will go out into the hands of the general practitioner, and everyone will believe that he can handle the serodiagnosis of syphilis. We shall then get unreliable results, and the serodiagnosis of syphilis will be discredited among practitioners. The test should be made by men with good laboratory training, who know all about the principles of hemolysis, who can meet defects and abnormalities when they do show themselves, and who are not merely going through a mechanical routine with test papers.

DR. FRANK SMITHIES, Ann Arbor: Without wishing to detract in the least from the ingenious device of Dr. Noguchi, I feel that I must endorse the remarks of Dr. Herzog. The commercialization and improper working of these tests by untrained persons frequently casts a good deal of doubt on the value of such a test in the minds of practitioners and the laity in general, so that I think that the work should be performed exclusively by expert laboratory men. We must admit that Dr. Noguchi has himself laid stress on this very point. My own work in connection with Dr. Cummings in 199 cases showed that 89 per cent. of known syphilitics gave positive reactions by the original Wassermann procedure; yet this reaction was obtained in other diseases. We have had it positive in pernicious anemia, cancer, Addison's disease, early measles, and tuberculosis, and in many patients who had received treatment for rabies according to the Pasteur method. We have attempted to give an explanation of its occurrence in the rabies cases in a recent preliminary report in THE JOURNAL, April 24, 1909, pp. 1330-1331. It appears to me, therefore, that while we do get a certain amount of clinical information by the Wassermann and the Noguchi tests, it is impossible, as Dr. Herzog has insisted in the present condition of our knowledge concerning the subject to entrust the work to any but experienced laboratory men.

DR. WILLIAM J. BUTLER, Chicago: I have investigated the precipitate reactions in conjunction with Dr. Mefford. With reference to the taurocholate and glycocholate of sodium on which we have already presented our results, we found the glycocholate of sodium conducted itself pretty well toward various sera; and while I do not wish to be put on record as believing that it is of decisive value in the diagnosis of syphilis, I think that it is not to be discredited. It gives closer information concerning the syphilis question than does any precipitate reaction, and its results parallel more or less those of the Wassermann reaction. Regarding taurin, my experience is limited. I tried it in ten cases of tuberculosis, which constitutes a good class of cases to try these reactions in. In none of the eight cases in which a positive result was obtained had we reason to suspect syphilis, so we stopped using it. Regarding the Wassermann reaction and its being found positive in other infections than syphilis, as reported by Dr. Litterer, we have all had experience in finding the reaction in other infections: and I think there are two reasons why this is so: First, there are so many sources of error in performing the reaction, that unless we adhere to pretty close lines, we are bound to fall into the mistake of making false interpretations. If we adhere to the original idea that a positive reaction is to be concluded only from a complete or almost complete inhibition of hemolysis, we shall seldom fall into error. The cases formerly termed 1+ or 2+ are gradually, in the hands of most investigators, being discarded; because there are too many sources of error in attempting to draw the lines between a 1+ and 2+ and a negative reaction. The experiments should be repeated and repeated, and the controls must come out perfect before such deductions can be made. Second, when a strong reaction is obtained, close inquiry invariably reveals a history of syphilis. The reaction is found in leprosy, occasionally in scarlet fever and noma. The point to which Dr. Herzog directs attention, namely, that human serum alone may act as an antihemolytic has, of course, been a matter of observation from the beginning of this work, and will not be eliminated by any of the modifications of the reaction that have been offered. While the modifications of Tschernogubow and Noguchi will eliminate the natural ambo-

ceptor for sheep's corpuscles, this is practically *nil* in all syphilitic serum so far as it interferes with the reaction, and on this point rests the modification advanced by Bauer.

DR. J. J. KINYOUN, Washington, D. C.: I agree with Dr. Herzog that the Wassermann reaction should be done in the laboratory by trained men and not for the time at least be given over to the clinician. I have no fear that there will be any material departure from the methods now in vogue and it will be a long time before the clinician will undertake to do the test even if it were more simple than the modifications now proposed by Dr. Noguchi. To illustrate this point: As is well-known, a simplification of the Widal test for typhoid was made by von Ficker, which was intended to put this in the hands of the clinician, yet despite its simplicity and availability for a bedside test it has not been received with favor for practitioners. Moreover the number of requests on the laboratories where the Widal test is made has increased. Now I believe that the same will obtain for the Noguchi method, and that but few clinicians will undertake to do the test, the majority will depend on the laboratories as at present. On the whole, my observation shows the Noguchi method more delicate than the original, and sometimes I am led to believe that it is a little too delicate.

DR. H. NOGUCHI, New York City: In carrying out the serodiagnosis of syphilis by complement fixation the antigen plays the most important rôle in the results. Not only the quality of the antigen should be suitable, but also the dosage of a suitable antigen should be carefully selected. An excess of antigen is to be avoided because of rendering the test unduly sensitive. Certain investigators who obtained a high percentage of positive reaction with scarlet fever or other non-syphilitic diseases (except leprosy) by using the Wassermann method now admit that they employed unsuitable antigen or an excess of this reagent. Should any one happen to get unduly sensitive reactions with any method he ought to reduce the dose of antigen to eliminate oversensitiveness. No one should adhere without certain trials to every dose of each reagent prescribed as the reagents may differ somewhat with the course, but he should understand the prinicples of the test and adjust the dosage according to the circumstances. The reading of the reaction is another important factor in deciding the results. It is my rule to base the diagnosis of syphilis on unmistakably strong reactions only, but never on weak reactions when the clinical diagnosis is unknown. On the other hand, I take even a faint positive reaction as a sign of active syphilitic process still present when the specimen is derived from a known luetic case. Again, for the purpose of excluding possibility of syphilis from a case I put value even on a faint reaction, no matter whether the person may seem apparently healthy or not. Thus, according to my opinion, the reactions may be utilized for three different purposes, namely, when strongly positive as a diagnostic; when weakly positive as a sign of still existing syphilitic foci in a luetic subject, and as a means of excluding syphilitic suspicion from a person. For the two last purposes there can be no objection to a very sensitive method, and, in fact, for selecting wet-nurses, recruiting for the military or naval services, choosing a donor of blood for transfusion, etc., a system which will not miss the reaction whenever there is one should be recommended. This is my answer to Dr. Litterer's reports. In regard to Dr. Herzog's question I may say that it is rare to meet with specimens containing disturbing quantity of anticomplement. If such a case should occur the anticomplement can be removed easily either by reducing the serum to be tested or by increasing the quantity of complement. My system is perfectly adjustable as each factor is separate and titratable.

DR. HENRY S. WIEDER, Philadelphia: I have only to say that the fact that none of the tests are any good is shown by the fact that Dr. Butler obtained the best results from glycocholates, while we got the worst results with them. The reactions depend more on the idiosyncrasy of the patient than on the disease. In tuberculosis Butler got 8 out of 10 positive reactions depend more on the idiosyncrasy of the patient than with taurin than with anything else. The result depends on the people you encounter. I do not believe that the disease has much to do with it.

PRIMITIVE GRAPHIC SIGNS IN PULMONARY WORK

BASED ON PHONETIC VALUES

JOSEPH H. BARACH, M.D.
PITTSBURG, PA.

A thing is practical in proportion to the extent of its application. Up to the present time have the graphic expressions used to denote physical signs in pulmonary cases proved to be really practical? If not, why not? That they have not been applied as extensively as they should be is conspicuously seen whenever one attends clinics and visits hospital wards. And the reason for this is largely because of the un-meaningness of many of the proposed signs.

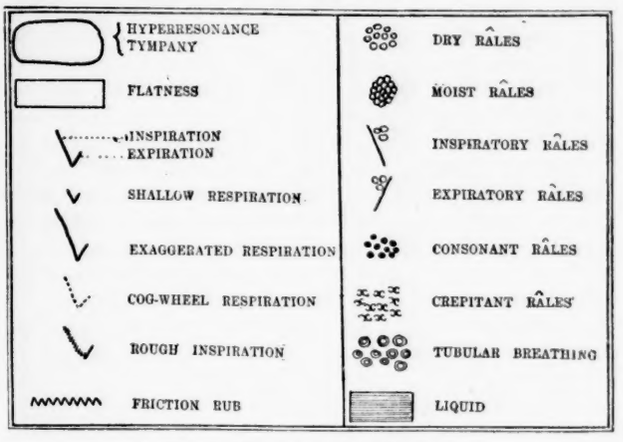


Fig. 1.—Primitive graphic signs.

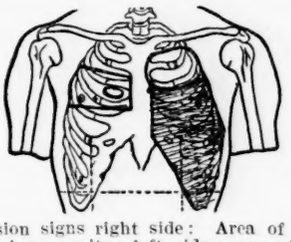


Fig. 2.—Percussion signs right side: Area of dulness enclosing area of resonance, i. e., cavity; left side: area of tympany overlying liquid.

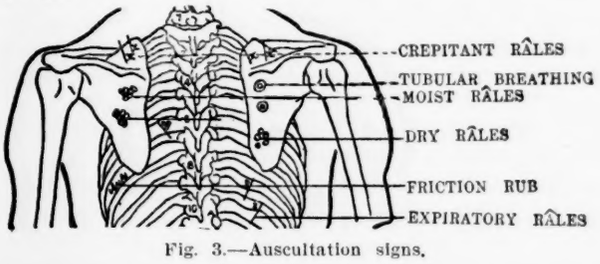


Fig. 3.—Auscultation signs.

At various clinics there have been adopted individual modifications, and in the invention of these signs the basic principle that should underlie such a system has not been sufficiently considered. The result has been that many of the signs are fanciful in proportion to the skill of their authors, and often indeed are fair representation of art for art's sake.

Unless signs are of the simplest character and have a distinct meaning of themselves they are difficult to memorize and retain. The average man on reading over a series of signs in a text-book will, within five minutes, remember but one or two out of the twenty or more; so that if he is to use them in his work he must "learn a new language." Therein lies the reason for the limited scope of their adoption.

Tyler enumerates five ways by which men communicate with each other. One of these is written signs. He says, "Signs, to be understood, must be of the natural self-expressive sort." A sign may be an imitation of the object desired to designate, or a symbol of the same; in either case its association should be readily understood. For our needs their association should be so thoroughly familiar that conscious memory should play no part in their usage. They should belong to the "unconscious memory." (Spencer.)

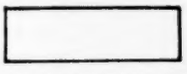
By the Chinese, and more so by the Japanese, along with the signs which originally were pictures, certain other signs are used to present sounds in their written language. With characters to express phonetic values, it is easily seen that a complete system would naturally develop as a part of such a written language. This can not be done in our writing. We may, however, adopt a system of symbols of the simplest primitive sort that is capable of entirely fulfilling the purpose for which graphic signs are intended in pulmonary work. In such a system each mark should express something definite. To this end I have carefully considered the signs that up to the present have been in use, retaining those which are true and capable by themselves of transferring a meaning to the reader of them and replacing others by new elemental signs which express the meaning intended to convey.

The first requisite for the record is a chest outline that is accurately proportioned. At the hospital we use an outline 3½x4½ inches on the history blanks, and in my private work I use the same size rubber stamp on a 4½x8 card.

PERCUSSION SIGNS

Normal Resonance.—If the percussion sounds seem normal, there is no need for making any marks at all.

Flatness or Dulness is designated by drawing straight border lines over the limits of the involved area. The straight lines, when joined in the shape of a square or oblong, or irregular area, always suggest to the mind a block or something flat or solid.



Tympany or Hyperresonance may be shown by a curved outline over the involved area. Round outlines suggest to the mind hollowness and hollow sounds.

These are the basic signs for percussion.

The degree of *flatness* or *hollowness* may be specified in the history or by abbreviation. In combination on chest outlines they are most suggestive. For example —an oval outline included within a square one at once suggests a hollow space in a solid body, a cavity in a solidified lung. Within these round or straight border lines can be marked the evidences of auscultation.

AUSCULTATION SIGNS

Inspiration is well represented by the down stroke of the letter V, the air rushing downward into the lung.

Expiration is shown by the up stroke, the air rushing upward out of the lung.

Relative Values of the sounds normally heard over the chest with *inspiration* and *expiration* are represented by a longer downward and inward stroke (inspiration) and a shorter outward and upward stroke (about one-fourth the length) for expiration. As with the resonance, normal values need not be expressed.

Abnormally Prolonged Expiration or Inspiration is represented by the relative increase in the length of either of the lines.

Shallow Breathing is represented by small marking.

Cog Wheel Breathing is pictured by interrupted lines.

Roughness of expiratory sounds is plainly indicated by a serrated line (inspiratory in similar manner).

Dry Râles.—On listening carefully to chest one is impressed with the fact that dry râles seem as discrete, individual sounds. I would, therefore, represent them as discrete circles.

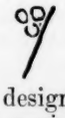
They may be large or small, or both, in proportion to their fineness or coarseness or mixture of both.

Moist Râles, on the other hand, always seem to be confluent sounds running together, as bubbles do. I would, therefore, represent them as circles joined—large or small, or both, as the physical findings suggest.

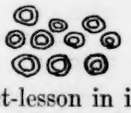
Inspiratory Râles.—These should be designated by marking the circles along the inward stroke.

If heard at the beginning of inspiration, then at the beginning of the line; if at the end, then at the end of the line.

Expiratory Râles are designated by placing the signs at the beginning or middle or end of the outward line, corresponding, according to the judgment of the examiner, to the beginning or end of the expiratory sound.



Tubular Breathing is designated by the image of a tube, a circle including a circle, a sign that is perfectly easy to make. It represents the bronchus; it suggests how tubular breathing is produced; seen on a



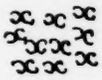
diagram, it is an object-lesson in itself. If it is to represent the bronchial breathing of a small bronchus, the sign is a small one; if a large bronchus, the sign is made larger. The location also suggests its possible size.

Mixed Sounds, as, for instance, when the ear detects bronchial breathing, and, at the same time moist or dry râles, are shown by the sign of each recorded side by side. This is more accurate than to have a com-

bination sign for both; for, accurately speaking, these sounds are produced by adjacent parts of the lung and never from one spot.

Friction Rub is very well represented by the sign frequently used which represents a saw edge, or jagged rough surface. Fine or coarse sounds are easily suggested by the size of the irregular up and down stroke. The location of the sign will designate its pleuritic or pericardial origin.

Crepitant Râle.—This sound is so important and usually of such distinctive meaning as to deserve a sign of its own.



The sign that is here shown represents the separation of the approximated alveolar walls, the manner in which we believe it is produced by the inspired air. One may also see in it the letter *c* for crepitant. This sign should accompany the inward or outward line, designating the time at which it is heard.

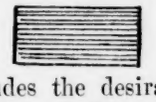
When it can be determined that the sound is produced by a fine pleural rub, then it should be represented by the friction sign. We already have a sign for the so-called *subcrepitant râle* that is merely a fine moist râle—and it would be well if the term itself were abolished, as its meaning is frequently confused (Bonney).

Consonance is a quality that râles possess under certain pathologic condition of the tissues out of which they emanate. This quality being largely that of increased intensity, is very well represented by having the sign of the râles appear as black dots, which convey a distinct meaning as contrasted with the circles.

The dots are discrete or confluent, according as to whether the râles seem dry or moist. A large element of personal equation enters into the interpretation of sounds possessing consonance, and, all considered, a dubious value is placed on their reliability for diagnostic inference.

The foregoing signs, if carefully considered, will each be found to correspond very closely to the underlying principle of phonetic writing, in which the picture or sign in this instance, should represent the character of the sound to be designated. Their meaning is therefore true.

Liquid is represented by a series of horizontal lines included within straight boundary lines. The outlined area is flat and, auscultatory sounds being absent, may be effaced by the horizontal lines; these also represent liquid better than any other simple sign.



This system includes the desirable elements of the various former systems of signs and in the new ones offers to the mind the simplest primitive forms in such a way as, once they are considered, they should be naturally retained.

4502 Fifth Avenue.

Headache Remedies.—Remedies for the relief of migraine are almost without number, but the most that can be expected of any of them is a diminution of the severity and a curtailment of the duration of the pain once the attack has become fairly established.

THE COMING REVISION OF THE UNITED STATES PHARMACOPEIA

TORALD SOLLMANN, M.D.

CLEVELAND, OHIO

The decennial convention for the revision of the Pharmacopeia will meet in Washington, D. C., on the 10th of May, 1910. The intervening time is none too long for the careful consideration of the policies which the delegates to this convention will have to determine. Their decisions will be the main factor in the fate of our Pharmacopeia, at least for the next ten years, and perhaps for much longer. The times are peculiarly favorable for effecting any necessary reforms, and it may be many years before an equally favorable opportunity will again present itself.

This convention elects the revision committee and the officers and trustees. It may also direct the scope of the Pharmacopeia and the general methods to be used in the revision. Within very wide limits, it has the power of prescribing almost any policies which it considers wise. It is, therefore, charged with very great responsibilities which should not be undertaken without serious thought and reflection. According to the constitution this responsibility is divided between the two professions of medicine and pharmacy. The constitution permits of more medical than pharmaceutical delegates, and thereby imposes the greater responsibility on the physicians. Most unfortunately, our profession has shirked its share in recent years and has turned the work over to the pharmacists. The latter have discharged their duties in a manner which should be a model to us. Accordingly we have in the Pharmacopeia a work which is a fairly representative standard of the best in modern pharmacy; but which is seriously lacking as a standard of the best in modern pharmacotherapeutics. The revision has passed into the hands of the pharmacists, because they were willing to do the work which we shirked. They merit praise, rather than reproach, for "capturing the Pharmacopeia."

AS TO ITS CAPTURE

Another reason for this capture is that the technical work of the revision requires mainly pharmaceutical rather than medical knowledge. Because of this fact it would be disadvantageous to increase materially the medical representation on the general revision committee, or to elect a clinician as editor. On the other hand, physicians should have at least an equal share in directing the general policies, and they alone should decide what substances are to be admitted to the Pharmacopeia. This is absolutely indispensable—at least, if the Pharmacopeia is to be a medical standard and not merely a compilation of pharmaceutical receipts and tests. If the latter is to be its main function, the wisest course for the medical profession would be to abandon a false position and to disclaim all responsibility. The founders of the Pharmacopeia certainly did not have this pharmaceutical conception of its scope, for in the early days the Pharmacopeia was published by the medical profession exclusively. With the discriminative evolution of the two professions, it became a wise step to place the technical matters in pharmaceutical hands. On the contrary, the simultaneous and unnecessary abandonment of a controlling voice in the direction of the general policies, and especially of the admissions, was distinctly a step in the wrong direction.

In theory we still retain this control, and it may not be too late to make it practically effective. The consti-

tution provides for equal representation for both professions, so far as national and state bodies are concerned. It also provides that each college of pharmacy and of medicine is entitled to send three delegates. Since there are more medical than pharmaceutical schools, it was the obvious intention of this provision that the medicine should have the larger representation. This, however, is not the way in which it would work in practice. The Pharmacopeia is the "book of books" in pharmacy, with every detail of which every competent pharmacist must be thoroughly familiar, however little he may know besides. Accordingly every member of a pharmaceutical faculty would be prepared to take an intelligent interest in the revision. The case is very different with the physician. For him the Pharmacopeia is only one book, if an important one, among many others which he must study. The acquaintance of the ordinary physician with the Pharmacopeia cannot, therefore, be as intimate as that of the pharmacist. Accordingly only a small proportion of a medical faculty, as a rule, would be prepared to understand the details of the revision. While, therefore, it should be easy for every pharmaceutical school to send its contingent of delegates, it would be difficult for many medical schools to find on their faculties three men who would be willing and able to attend. This inequality could be easily remedied by reducing the number of delegates for both professions—a reform which may be supported by other weighty arguments. There is little doubt that the present size of the convention is entirely too large for the most effective transaction of its business in the brief time at its disposal.

A VICIOUS CIRCLE

After all, however, the main reason why the policy of the Pharmacopeia has passed out of the hands of the medical profession is that the latter has not exerted itself to retain the control. This, again, is due mainly to the fact that the Pharmacopeia has become so predominantly pharmaceutical in its tone and contents that it is really of minor importance to the physician. There is here a vicious circle: Physicians take no interest in pharmacopeial revision, because the Pharmacopeia does not represent their vital interests; and the Pharmacopeia does not represent their interest because they take no interest in its revision.

Let us face the issue frankly: If the Pharmacopeia is not and cannot be made practically important to the physician, then let us abandon it altogether. If it is or can be made important, then let us live up to our responsibility, break this vicious circle, and start it to revolve in the useful direction of improvement. Few will deny that the Pharmacopeia has within it the germ of the greatest practical usefulness—were it only as an instrument in putting down the evils of nostrum-quackery. In fact, the Pharmacopeia is one of the strongest potential factors in advancing scientific therapeutics—which means simple and accurate prescribing.

So far as I have been able to ascertain, the medical profession is practically a unit in believing that some radical changes are required to make this potentiality an actuality—however widely opinions differ as to the details of these changes. These differences of opinion are a most healthy symptom, for from their thorough discussion we may expect the nearest approach to perfection. It is essential, however, that the bulk of this discussion should take place before the convention meets. At the convention the time for discussion will be altogether too limited to hope for the best results. It is also essential that the delegates should be well informed and, so far as may be, united. For, while the times are propitious, we dare only hope for the best results if those who believe in the necessity of reform will present a united front. Finally, it will be necessary that the program of reform should not be vague and indefinite, but that it be presented in the form of clean-cut motions.

With this object in view—namely, of submitting a definite program for discussion—I venture to recapitulate, in the form of motions, the principles of reform which I had the honor of discussing before the Section on Pharmacology and Therapeutics at the Chicago meeting in 1908. I would refer those who are interested in the arguments to the published paper.[1]

PRINCIPLES OF REFORM

The changes which appear to me as of the first importance, from the medical standpoint, are about as follows:

A. *Reorganization of the Revision Committee.*—The complexion of the revision committee should be changed so that the present relatively large committee, with vague individual responsibilities, may be replaced by a smaller "executive committee," each member being elected directly by the convention as chairman of a given department of the revision, and thus charged directly with the full responsibility for his department. The departments are enumerated under Motion 3. Their personnel, in addition to their chairman, should consist of "associate members," whose number, selection and appointment should rest with the chairman of the department, with confirmation by the executive committee. The appointment of all the members of the admission committee, however, should be made directly by the convention. The chairman of the editorial committee should be *ex officio* chairman of the executive committee. The appointment of all the members, associate as well as executive, should be conditioned on effective work, and in case of failure should be subject to revocation by the board of trustees.

Unfortunately the election of the revision committee precedes the discussion of amendments, in the order of business of the convention. This would mean, as I interpret it, that any reforms along these lines could not be made fully effective until the next convention, in ten years—unless, indeed, the newly elected revision committee would offer the self-sacrifice of resigning in a body when such amendments are adopted. This would be by far the simplest solution of the difficulty. Otherwise the convention would need to provide a temporary makeshift by filling all the newly created positions from the revision committee which had been elected according to the old plan. This would be feasible, although more complicated.

These changes are covered by the following motions:

MOTION 1.—That Article I of Chapter V (page 13[2]) of the by-laws be amended to read as follows:

"The committee of revision shall consist of (a) an executive committee, composed of the chairmen of the ten departments of revision, to be elected at the decennial meeting; (b) the associate members to be appointed by the chairman of each department with the approval of the 'executive committee' (except that the members of the 'admission committee' are to be elected directly by the convention as provided below under Article IV; (c) the president of the convention, *ex officio*.

1. THE JOURNAL, Dec. 12, 1908, pp. 2013-2018.
2. The "pages" refer to the pamphlet "United States Pharmacopeial Convention," printed by order of the Board of Trustees, Washington, D. C., 1909.

"The business of the committee may be transacted by correspondence."

MOTION 2.—(Required only if a revision committee has already been elected according to the old plan). That, as a temporary expedient, the chairmen of the departments for the current revision be elected from the members of the revision committee, elected according to the by-laws hitherto in force.

MOTION 3.—That Article III of Chapter V (page 14) of the by-laws be amended to read as follows:

"The departments of the Revision Committee shall be the following: (1) Editorial; (2) Admission; (3) Pharmacognosy and Botany; (4) Proximate Principles and their Chemical Assays; (5) Volatile and Fixed Oils and Resins; (6) Inorganic Chemicals, Chemical Processes and Reagents; (7) Organic Chemicals (including Synthetic Products); (8) Pharmaceutical Processes and Recipes; (9) Pharmacodynamics (including Sera and Physiological Assays); (10) Therapeutics (including Strengths and Doses)."

"The chairman of the editorial department shall be *ex officio* chairman of the executive committee. He shall have the general direction of the work of revision, assign the subjects to the departments, receive and announce the votes of the executive committee, attend to the correspondence and prepare the final manuscript. It shall be his duty to present to the decennial meeting a report of the work of the revision committee. The executive committee shall elect from its members two vice-chairmen and a secretary to serve until their successors are elected."

B. *Control of the Admissions.*—This reform is of most particular interest to physicians. The present method rests on the entirely indefensible assumption that the chemist and pharmacist are the most competent judges of therapeutic usefulness. This absurd arrangement should be abolished by placing the control of admissions in a special committee elected for their special fitness for this particular purpose—by far the most delicate and complex problem with which the revision will have to deal.

MOTION 4.—That Article IV (page 14) be amended to read as follows:

"The Convention shall elect the entire committee on admissions, which shall consist of a chairman and five other members, of whom at least four shall be physicians. It shall be the duty of this committee to pass on the admission of substances to the pharmacopeia, subject to any general direction which the convention may give, and to report their conclusions promptly to the chairman of the 'executive committee.'"

MOTION 5.—That Article V (page 14) be replaced by the following:

"The chairmen and other members of the revision committee shall receive such compensation for their services as the board of trustees may direct. Vacancies may be filled by election by ballot by the executive committee."

C. *Nominating Committee.*—These changes will necessitate some alterations in the method of nomination:

MOTION 6.—That Chapter VI of the by-laws (page 14) be replaced by:

"*Article* I.—A nominating committee of ten shall be elected by and from the delegates present at the decennial meeeting.

"*Article II.*—The nominating committee shall present one or more names for each of the elective positions for the ensuing ten years, namely, president, five vice-presidents; secretary, assistant secretary, treasurer, five trustees, chairmen for each of the ten departments, five additional members of the committee on admissions."

D. *Standards for Admission.*—In addition to these motions which affect the constitution and by-laws, the convention should express itself as to the general policies to which the revision committee should adhere. The following are of medical interest:

MOTION 7.—That there be admitted to the Pharmacopeia only those drugs whose medicinal value and superiority are generally acknowledged, and which are in general use in the United States.

MOTION 8.—That the number of official preparations of these drugs be reduced to the effective minimum.

MOTION 9.—That substances which are not used directly as medicines be not admitted to the body of the book; such as are needed only for manufacturing, testing, etc., being placed in an appendix.

MOTION 10.—That no substance be barred solely because its assay is complicated.

MOTION 11.—That physiologic assays shall be introduced whenever they are necessary and sufficiently accurate.

MOTION 12.—That patents or trade-marks shall not exclude substances which are otherwise eligible; but that great conservatism shall be practised in the admission of proprietary substances.

E. *Secrecy.*—Secrecy should be eliminated.

MOTION 13.—Secrecy is undesirable in official work. The revision committee should seek advice openly, and give opportunity for the public discussion of its findings before these are officially adopted. It should therefore devise a method of preliminary publication.

F. *Frequency of Revision and Issue of Supplements.*—The Pharmacopeia should aim to keep abreast with science. Since the additions to knowledge do not occur at stated periods, but are more or less continuous, the work of revision and, if possible, the publication should aim to be continuous:

MOTION 14.—That the revision committee publish its conclusions as soon as possible after they are made, and that an interval of at least four months be allowed for public discussion before the conclusions are officially adopted; that once a year, or oftener if necessary, a supplement be issued, printed in such a manner as to be readily detached and inserted in the current pharmacopeia; that each supplement become official four months after the date of its publication; that a new issue of the pharmacopeia, embodying these supplements, be printed whenever and as often as the supplementary matter is of sufficient volume and importance to justify the board of trustees in printing a revised edition. That the greatest conservatism should prevail in regard to established standards of strength and processes.

G. *Dosage.*—The legal and moral responsibility for the treatment of a patient rests on the attending physician. Since he has this responsibility, he should have the right to prescribe whatever quantity of whatever substance he deems necessary for the treatment. This right must not be abridged in any manner. As a protection against errors of interpretation, however, the physician should indicate to the dispenser whenever he prescribes intentionally an unusually large dose of potent drugs. To make this protection possible, the maximum limit of the "usual" dose of such substances should be officially defined.

MOTION 15.—That the revision committee is requested to introduce into the pharmacopeia a table of official "maximum doses" of potent drugs, in addition to the average doses; that it be stated, in a prominent place, that the insertion of these maximum doses is not intended to limit the right of the physician to prescribe larger doses; but as a protection to him, as well as to the public and the dispenser, against accidental errors.

H. *Working Method.*—As a method of obtaining the necessary data the following may be suggested:

MOTION 16.—That the following outline be transmitted to the Executive Committee for their consideration: The consideration of any substance to be admitted to the Pharmacopeia shall originate with the committee on admissions, which shall communicate its decisions promptly to the chairman of the executive committee. The latter shall then assign the substance to the chairman of one of the departments (3-9), on whom the responsibility for securing a description shall rest. The chairman of this department shall then apportion the

article among his associate members, and obtain what aid he may need from the other departments, and elsewhere, and render a report to his department for discussion. After alteration and adoption by this department he shall transmit his final report to the executive committee for vote. If adopted, the therapeutic committee shall affix the dose, and the editorial committee shall prepare the description for publication, submitting proof to the executive committee and to every member of the department in which the report originated.

Before concluding I should like to state once more that I offer these suggestions at this time for the purpose of evoking discussion. I do not flatter myself with the hope that they are perfect and infallible; but it is precisely by thoughtful discussion that their weak points may be made manifest. I shall be the first to welcome any and all improvements.

HYPERTROPHIC STENOSIS OF THE PYLORUS IN INFANTS

REPORT OF CASES OCCURRING ON THE PACIFIC COAST *

STANLEY STILLMAN, M.D.
SAN FRANCISCO

The uncertainty and conjecture surrounding every feature of this most interesting affection has induced me to contribute the following results of a study of all the known cases, occurring on the Pacific coast, of which I have been able to collect reports. This uncertainty involves not only the etiology, but the nosology, diagnosis, prognosis, treatment, and even the question of final cure. Only one thing seems positive, but that seems to be so everywhere, that the more attention is called to the affection, the more cases there are discovered, and all writers agree that the frequency of the affection is very much greater than the number of recorded cases would indicate.

The clear and complete description of the condition by Meltzer, of New York, at the meeting of the Association of American Physicians in 1898, and by Scudder and Quinby,[1] of Boston, leave nothing to be added in this particular by me. The symptom-complex of projectile vomiting, visible peristalsis, prominence of the epigastrium, and retraction of the lower half of the abdomen, scanty stools, and diminished secretion of urine, with or without a demonstrable tumor of the pylorus, suddenly appearing in the second or third week of life, is characteristic enough to awaken suspicion as to the nature of the affection. Koplik's recent paper has done much to harmonize the various theories and opinions regarding the nature of the disease, but I agree with Porter, of San Francisco, that so far as his classification is concerned, pure pyloric spasm should not be placed in such juxtaposition with pyloric stenosis. There is undoubtedly such a condition as pure pyloric spasm in infants, as in adults, without demonstrable hypertrophy of the muscles, either antemortem or postmortem, microscopically or macroscopically. Such a case was reported in our list—the patient was operated on for hypertrophic stenosis, but no tumor or stenosis of the pylorus was found. A gastroenterostomy was done nevertheless and the infant recovered from the operation, but died three weeks later from continuance of the vomiting. Spasm of the pylorus is far more apt to be secondary to trouble elsewhere in the gastrointestinal tract than the stomach, or a reflex from some other organ of the abdomen or pelvis, in adults and I believe also in infants, and is often a conservative effort on the part of Nature to prevent anything from passing into the intestine on account of some trouble below. A gastroenterostomy ought to and often does do harm under such circumstances, and possibly did do harm in the case of the infant mentioned. In infants I believe it will be found to occur later than hypertrophic stenosis, and to be the condition present in those cases of alleged hypertrophic stenosis, in which the symptoms begin after the first two months or so of life, and which make complete recoveries under medical treatment. The histories and symptoms of these cases ought to differ considerably from the others, and a careful study of them will, I am sure, enable a differential diagnosis to be made—the vomiting will not be so explosive or so constant, the peristaltic waves not so marked, the character of the stools different, the urine not so scanty, and the condition be more promptly relieved by medical treatment.

Our cases have thrown no new light on the etiology, but the fact has been amply demonstrated that the disease is characterized by the existence of a tumor of the pylorus, made up principally of hypertrophied muscles, both longitudinal and circular, but including as well all other structures constituting the pylorus, except the mucous membrane, as has been described by Prudden and others, and recently by Lee, of San Francisco. All pathologic examinations have shown practically the same conditions. It is incomprehensible that such a tumor, the size of an olive and as hard as cartilage, should be the result of any postnatal irritation arising in the first two or three weeks of life, when it is the fact that the condition occurs almost always in a previously absolutely healthy, strong, robust, breast-fed boy baby, and never occurs as the result of the numerous attacks of gastrointestinal disturbances in later infancy.

It is not within the scope of this paper to discuss any of the many theories for the cause of the hypertrophy, but I will dogmatically state that I believe the hard cartilaginous tumor will ultimately be found to be the result of a congenital abnormality of developmental origin, and not the result of swallowing amniotic fluid, or lanugo hairs or normal healthy mother's milk, and that its proper title will be admitted to be "congenital hypertrophic stenosis."

As certain as the fact of the existence of the hypertrophied muscle tumor is the fact of its capability of spasmodic contraction, and the degree of this spasm is not necessarily measured by the amount of hypertrophy present. In the two cases in which I operated, one patient being three and one four weeks of age, no suggestion of a lumen could be demonstrated by compressing the tumor, and there could be no doubt that the tumor was at the expense of the lumen. In the four postmortem specimens I have seen, one of them a fresh specimen, the same condition as has been repeatedly observed by others was found—a lumen reduced to a tortuous passage, one-half to three-quarters of an inch long, that would hardly admit a probe. In such cases the supervention or not of spasm is of no consequence—even when the muscle is entirely relaxed in death, the narrow lumen, filled with folds of reduplicated mucous membrane, is barely patulous. These are cases in which a tumor ought to be felt, and I think would more often be felt if repeatedly sought for, especially under an anesthetic. I think such examinations under an anesthetic are not frequently enough made, for it is of the highest importance, so far as prognosis and treat-

* Read in the Section on Surgery of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

1. Scudder, Charles L., and Quinby, William C.: Stenosis of the Pylorus in Infancy, THE JOURNAL A. M. A., 1905, xliv, 1665.

ment are concerned, to determine the existence or not of a tumor. Tiny infants stand an anesthetic just exactly as well as adults, if not better, and show remarkably little after-effects. I strongly urge that such examinations be made in suspicious cases.

Not all cases are of such an extreme type, however. In most the hypertrophy is not so great, the tumor so well defined, or the lumen so narrowed. These cases fall under Koplik's second division, are the ones that cause the greatest confusion, and are the ones of which I wish particularly to speak. They are the cases in which Loretta's operation has been done with more or less, generally less, benefit. They are the cases in which pyloroplasties of various kinds have been done; they embrace the postmortem cases in which the pylorus would admit a lead pencil; they are the cases in which after death the contracted lumen has been observed to increase in size to nearly normal, and in such cases the patients may entirely recover under medical treatment, or may improve but continue to suffer in some way or other all their lives. In these a tumor may be felt at some times and not at others, and might disappear when the spasm is relaxed in profound anesthesia. They are cases in which there is congenital hypertrophy of the pylorus, but not to a degree incompatible with the passage of food, except when spasm is added, and only moderate spasm may be sufficient to cause occlusion as complete as the organic occlusion in the class of cases first mentioned, which correspond to Koplik's third division. They differ from these only in the degree of hypertrophy, and this degree can be measured, so far as our present experience goes, only by the results of medical treatment or by exploratory incision. Such, in my opinion, are the patients that Robert Hutchinson, of London, cures by daily lavage of the stomach and the administration of minute quantities of very dilute milk, and by encouraging to reach a degree of exhaustion such that there is not vitality enough left in the muscles of the infant, pyloric or otherwise, to respond to any stimulus, and then the hypertrophied pylorus will relax enough to admit food to pass it. If it continues to do so permanently, as he says is the fact in his cases, I think it is because the degree of hypertrophy in his cases has been only moderate. It is partly due to his teaching, together with that of Pfaundler, Bloch, Heubner, and others, and partly to the poor showing made by surgery from including in its statistics cases of patients moribund at the time of operation, that makes the general practitioner uncertain what course to pursue when dealing with one of these cases, and makes him postpone surgical relief till it is as plain to the parents as it is to himself that the infant is about to die.

I do not think that it is as well appreciated by the average medical man, or perhaps by the average surgeon, as it ought to be, that infants, particularly in the first six weeks of their life, are as well able to stand surgical operations and anesthetics, and are as tenacious of life, so far as shock is concerned, as at any other time of their lives, provided certain precautions are observed, and these are that their vitality shall not have been lowered by starvation before operation, and that their body heat shall not be lowered by exposure during operation. Adults may sometimes be reduced in weight before operation, with impunity, but not infants. They begin to lose almost immediately in vitality and resistance, with loss of weight. Hence the urgency in this affection of early decision as to whether a given patient should be operated on or not.

The total number of cases I have to report is 27. The records were received in response to letters sent to representative physicians and surgeons throughout the states of Washington, Oregon, and California. The earliest case reported occurred in the practice of Dr. Barbat in 1904. In 1905, 2 cases were discovered; in 1906, 2 cases; in 1907, 1; in 1908, 13, and to date this year, 7 cases; in one case the year could not be ascertained.

Of these 27 cases, the diagnosis was verified by postmortem or operation in 15. Of the remaining 12, the diagnosis in 7 was made by men of the highest standing and experience; in one of these operation was urged but refused, and the infant died. In 2 others a tumor was present. The remaining 4 I class as doubtful.

Of these patients one died, and the records were lost in the fire of 1906. One has vomited since birth at intervals of four to ten days, and is now 5 years old. One is reported cured after three years, and one is now under treatment—a very recent case. Of the 27 patients 18 recovered and 9 died.

Eleven were operated on, of whom 9 recovered and 2 died. Sixteen were treated medically of whom 9 recovered and 7 died. Subtracting from these 27 cases the 4 doubtful ones, and a case in which no tumor was found at operation, there are left 22 undoubted cases of hypertrophic stenosis.

Of these patients 15 recovered and 7 died. Ten were operated on and 12 were treated medically. Of those operated on, 8 recovered and 2 died. Of those treated medically, 6 recovered and 6 died.

TABLE 1.—PATIENTS TREATED MEDICALLY

	Physician.	Location.	Date.	Onset.	Result.	Remarks.
1.	Barbat.	San Francisco.	../04	3rd Week.	Died (6 weeks).	Tumor found at autopsy.
2.	Baun.	" "	2/05	3rd Week.	Recovered.	Still requires soft food. No palpable tumor.
3.	Edwards.	Los Angeles.	../05	?	Died (8 weeks).	No autopsy.
4.	"	" "	?	?	Died.	Tumor at autopsy.
5.	"	" "	4/09	8th Week.	Stationary.	Treated one month.
6.	"	" "	5/09	?	Stationary.	Treated few days.
7.	Farmer.	Folsom, Cal.	11/08	Birth.	Died (16 weeks).	No autopsy.
8.	Frick.	Los Angeles.	12/08	3rd Week.	Stationary.	Weighs 7¾ lbs. at 6 mos. palpable tumor.
9.	Lewitt.	San Francisco.	10/08	3rd Week.	Recovered.	Weighed 13¾ lbs. at 6 mos. palpable tumor.
10.	"	" "	11/08	3rd Week.	Improved.	Weighs 9¾ lbs. at 5 mos. palpable tumor.
11.	Porter.	" "	../09	4th Week.	Died (11 weeks).	Collapse; tumor found at autopsy.
12.	Spalding.	" "	../09	3rd Week.	Died.	Pneumonia found at autopsy.

TABLE 2.—PATIENTS TREATED SURGICALLY

	Surgeon.	Location.	Date.	Age.	Result.	Operation.
1.	Barbat.	San Francisco.	....	3 Weeks.	Recovered.	Posterior gastrojejunostomy.
2.	Eagleson.	Seattle, Wash.	?	?	Recovered.	Posterior gastrojejunostomy.
3.	"	" "	?	?	Recovered.	Posterior gastrojejunostomy.
4.	"	" "	?	?	Recovered.	Posterior gastrojejunostomy.
5.	Krone.	Oakland, Cal.	../07	12 Weeks.	Recovered.	Anterior gastrojejunostomy.
6.	Lartigau.	San Francisco.	9/08	3 Weeks.	Recovered.	Posterior gastrojejunostomy.
7.	Stillman.	" "	3/08	4 Weeks.	Recovered.	Posterior gastrojejunostomy.
8.	"	" "	6/08	3 Weeks.	Recovered.	Posterior gastrojejunostomy.
9.	Tait.	" "	4/07	16 Weeks.	Died.	Gastroduodenostomy.
10.	Willits.	" "	3/08	9 Weeks.	Died.	Posterior gastrojejunostomy.

Of those recovering after operation, all have remained well and are healthy normal babies in appearance. Of those dying after operation, one died forty-eight hours after, and the other after a second operation performed five days after the primary one, which was a gastroduodenostomy and failed to relieve the vomiting. Of the six recovering under medical treatment, one at the age of 5 years is obliged to live on vegetable purées and milk and meat-juice. One has been under treatment one month and one ten days only. One at the age of 5 months weighs 7½ pounds; operation has been considered, but not advised because the mortality rate in the published statistics has been so discouraging. One at 6 months weighs 13½ pounds, and one at 7 months weighs 9¾ pounds. Of those dying under medical treatment, one died of double pneumonia, one of sudden collapse two days after beginning treatment. In two cases operation was urged but refused. The ten patients treated surgically were operated on by seven different surgeons, none of whom, I am sure, would lay claim to more than average skill or experience. The patients not operated on were treated by eight physicians, not counting consultants. Of the 6 living patients, 5 have been treated along the lines laid down in the past eighteen months; 1 was discharged cured five years ago, and still requires semisolid food. Of the 6 dying, 3 had the benefit of the best modern treatment, 2 were treated four and five years ago, and in 1 the character of the treatment is unknown.

As to the nature of the operations done, of the successful 8, 7 were posterior gastrojejunostomies and 1 anterior. Of the 2 fatal cases, 1 was a posterior gastrojejunostomy and 1 a gastroduodenostomy. If to the cases of gastrojejunostomies posterior and anterior we add the case in which no stenosis was found, but in which the patient recovered from the operation and died three weeks later from causes not chargeable to the operation itself, we have 10 cases of gastrojejunostomy with 1 death. The patient on whom a gastroduodenostomy was done, and a second operation five days afterward, would probably have recovered also had a gastrojejunostomy been done. If so, the record would have been 11 cases with 1 death.

These figures do not represent the results of the work of one or two brilliant and exceptionally experienced operators, but of seven different surgeons of average experience—and their significance lies in that fact. They do not represent triumphs of surgery, but of medicine—they are less the result of surgical technic than of intelligent and enlightened judgment on the part of medical practitioners. The babies still had a chance when operated on, and they lived and are all healthy, happy, robust babies to-day.

So far as the operation of choice is concerned, it seems to me to need no argument that it should be posterior gastrojejunostomy. While not ideal, perhaps, it succeeds and can be done more safely and quickly by the average surgeon than any pyloroplastic operation. Whether the pylorus in some cases recovers its patency, and the artificial opening closes or not, does not affect the main issue at all, to my mind. The babies so treated are, within a month, all normal well-nourished babies and have continued to be, while the medically treated ones have in some cases continued apparently cured for a long time, but in most have continued to suffer in some way for many months. One of the patients reported to us, but not included in our series because of lack of early history, has had periods of vomiting at average intervals of a week since birth six years ago; his present physician thinks that even yet he may advise operation. Of the six patients said to be cured so far as vomiting is concerned, one is still restricted to semisolid food at 5 years, a second weighs only 7½ pounds at 5 months; a third 9¾ pounds at 7 months; 2 are still under treatment, and only 1 is in positively satisfactory condition. This child weighs 13⅜ pounds at 6 months. Of the 6 patients dying under medical treatment, 1 died of pneumonia and 1 of collapse from heart trouble. Was not their starved condition responsible for their inability to contend with these affections, and are not all these infants, during the many weeks and months in which they are going down hill preparatory to "rounding the corner," as Hutchinson puts it, in greater danger of their lives from some intercurrent affection, or from failure to "round the corner," than they are from death due to a timely gastroenterostomy?

Our cases are, of course, too few to draw positive conclusions from, but those collected on this side the world have been too many; I have avoided combining them, because I did not wish to spoil our record. I think a new series should be started, combining all cases since Scudder's series of 1905—perhaps limited to cases occurring in this country, and if surgeons will refuse to operate in the last-resort cases the statistics will be such, I think, as to convince both practitioner and parents that there is less to fear from a timely operation than from timorous delay. While they do not justify positive conclusions, our cases afford food for reflection, and as the result of such reflection on my own part I may say that I believe that no one who has ever actually palpated one of the hard unyielding tumors found in the class of cases first mentioned can question the necessity of operation in them, and I think that the presence of a palpable tumor is a positive indication for immediate operation, whether the infant can apparently be benefited by medical treatment or not.

I think that cases of pure pyloric spasm can, and ought to be, in most cases, differentiated from all but the most mild cases of hypertrophic stenosis, and that they should probably never be treated surgically.

I think that medical treatment should be given while there is a reasonable doubt as to the diagnosis, in cases of hypertrophic stenosis plus spasm, in which no tumor can be domonstrated, but thereafter medical treatment should not be persisted in if the infant is losing ground; that control of vomiting in these cases does not mean cure, and that gastroenterostomy does not mean cure in at least nine out of ten cases, and that it is not so much a question of necessary operation as of unnecessary suffering, danger, and death.

2101 Webster Street.

Dosage for Children.—L. C. Ager, in *Pediatrics*, states that the dosage of drugs for children can not be calculated by any comparison of body weights. Almost all drugs are relatively better borne by children than by adults; this is probably due to more rapid elimination. On the other hand, there are some drugs that must be used with great caution with children. Probably the two extremes are atropin and arsenic. No drug in any dose should be administered without a definite idea as to the result that it will produce and then the amount used should be sufficient to produce that result. Almost as much harm has been done by thoughtless and injudicious use of vehicles as by the wrong use of active drugs. A teaspoonful of the various syrups frequently administered would upset the digestion of a healthy infant. Not infrequently also children receive an excessive amount of alcohol by the use of the elixirs or some of the proprietary foods.

PERFORATED GASTRIC AND DUODENAL ULCERS

WITH A REPORT OF TWENTY-TWO CASES *

JOHN H. GIBBON, M.D., AND FRANCIS T. STEWART, M.D.
PHILADELPHIA

It has seemed to us that a study of twenty-two cases of perforated gastric and duodenal ulcers might be productive of some conclusions worthy of attention. This collection of cases represents our entire combined experience with this interesting lesion, all cases being included, whether successful or unsuccessful. Many of our patients were operated on in the same institutions, and in all but one instance the operation was done as soon as permission for it was granted and the necessary arrangements could be made. Neither of us has declined to operate in any case of this nature which has come to our notice.

Before taking up the discussion of the cases it will be well to consider the following brief histories of them.

Cases 1, 2, 4 and 5 were reported[1] by one of us a number of years ago. These histories will be given only in brief.

The cases are presented chronologically.

CASE 1.—F. C., male, aged 18; Bryn Mawr Hospital; perforated duodenal ulcer; closure and drainage; Jan. 13, 1903; sixteen hours after onset; recovery. (Gibbon.)

Comment.—The interesting points in this case are the following: There was nothing in the patient's previous history which could possibly indicate a duodenal ulcer; the attacks of pain which have been spoken of were supposed to have been due to the appendix. The patient had never had attacks of vomiting, nor had he ever passed blood by the bowel.

CASE 2.—T. B., male, aged 50; West Chester Hospital; perforated gastric ulcer; closure and drainage, April 7, 1903, thirty-six hours after onset; operation advised by physician eighteen hours after perforation but patient would not consent; death eleven hours after operation. (Gibbon.)

Comments.—This case is a very typical one of acute gastric perforation presenting a typical history and the characteristic symptoms. If operation had been performed when it was first advised it is altogether possible that the patient's life might have been saved.

CASE 3.—J. C., male, aged 24, operated on at Jefferson Hospital for perforated gastric ulcer, April 23, 1903, five hours after the initial pain; recovery. (Stewart.)

History.—The patient had never had indigestion and was enjoying good health up to 3 p. m. of the day of admission, at which time, after eating several lamb chops and a quantity of peas, he was suddenly stricken with violent pain in the region of the umbilicus, the pain later shifting to the neighborhood of the pylorus and then becoming generalized. The entire abdomen was tender and its muscles rigid, but both these signs were most marked in the right upper quadrant. The abdomen was scaphoid, liver dulness preserved, and no dulness could be detected in the flanks. The temperature was 97, the pulse 110, the respirations thoracic, the leucocytes 19,000, and the blood pressure 235. The patient had vomited his lunch, but there was no blood in the ejected material.

Operation.—A diagnosis of perforated gastric ulcer was made and the abdomen opened through the upper half of the right rectus muscle. There was a large quantity of odorless milky fluid in the peritoneal cavity but no gas. On the anterior wall of the stomach, about one-half inch from the pylorus and nearer the greater curvature, there was an opening about one-eighth of an inch in diameter, through which milky fluid and gas bubbled when the pylorus was handled. The surrounding stomach wall was markedly indurated. The opening was closed with a double row of continuous Lembert sutures of silk, some of which tore out, owing to the friability of the stomach wall. The peritoneum was normal in appearance. A second incision was made above the pubes, the entire abdominal cavity irrigated with salt solution, a gauze drain passed into the pelvis and another just below the pylorus.

Postoperative History.—The patient was placed in the right lateral posture and fed by rectum for one week. Recovery was uneventful.

CASE 4.—M. S., female, aged 17; Bryn Mawr Hospital; perforated gastric ulcer; closure and drainage; May 1, 1903, forty-eight hours after onset; death twenty-four days after operation. (Gibbons.)

Comment.—This case was one of subacute perforation with the discharge of the gastric contents into the pelvis, and but for the complication which arose two weeks after the operation the patient would have recovered. This complication was the result solely of our failure to reintroduce the pelvic packing sufficiently deep to keep up drainage. This error is one which I (Gibbon) believe frequently results in death. It is often difficult to reintroduce the packing as deep as it ought to go, and we are too frequently content to get it simply within the peritoneal cavity. I would have lost a patient with gangrenous Meckel's diverticulum from the same cause had I not performed a second operation earlier than I did in this case and re-established drainage of the pelvis.

CASE 5.—I. R., male, aged 45; Pennsylvania Hospital; perforated gastric ulcer; closure and drainage; Oct. 1, 1903, nine hours after onset; gastroenterostomy eighteen months later for recurrence of symptoms; recovery. (Gibbon.)

CASE 6.—J. B., male, aged 32; operated on at the Jefferson Hospital for perforated gastric ulcer, Dec. 20, 1903, four hours after the perforation; recovery. (Stewart.)

History.—This patient had suffered for about five years with severe indigestion. While walking along the street he suddenly felt "ten thousand needle-like pains" shoot through his abdomen to the back, the right shoulder and the rectum. The pain abated somewhat and he ate a meal consisting of chops and potatoes, immediately after which the pain became excessive, being most marked in the epigastrium and later in the right iliac fossa. He took an emetic and vomited a large amount of semidigested food. There was marked rigidity and tenderness over the whole abdomen, absence of liver dulness and dulness in the flanks. The temperature was normal, the pulse 120.

Operation.—A diagnosis of perforated gastric ulcer was made and the perforation, one-eighth of an inch in diameter, found on the anterior wall of the stomach near the pylorus. The perforation was closed with a double row of continuous Lembert sutures of silk, the abdominal cavity flushed with salt solution, a drain of gauze passed to the vicinity of the pylorus and another through a separate incision into the pelvis. In this case the appendix also was removed.

Postoperative History.—Recovery was uneventful, except for a persisting sinus in the epigastrium, which healed after discharge of the silk suture with which the perforation had been closed. About five years after the operation the indigestion returned in a severe form and was treated medically with a happy result by the patient's physician, Dr. E. Q. Thornton.

CASE 7.—R. H. B., male, aged 44; Bryn Mawr Hospital; perforated gastric ulcer; closure and drainage, May 30, 1904, twenty-four hours after onset; death five days after operation. (Gibbon.)

History.—A diagnosis of gastric ulcer was made several years previous by Dr. Walter Chrystie. The patient had been sick a week with gastric symptoms including hematemesis. Twenty-four hours before operation he was seized with sudden severe abdominal pain. Dr. T. F. Branson saw him nine hours later and diagnosed perforated gastric ulcer. The abdomen was board-like but there was no obliteration of liver dulness. There had been no vomiting since the perforation occurred.

Operation.—There was a large amount of extravasation into the peritoneal cavity. The liver was adherent over the upper portion of the anterior wall, and from between the liver and stomach the gastric contents could be seen escaping. There was a large perforation near the lesser curvature, about the juncture of its first and second third. Ulcer closed by two

* Read in the Section on Surgery of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909. Owing to lack of space, the article is here abbreviated by condensation of the case reports. The complete article appears in the Transactions of the Section and the authors' reprints.

1. Gibbon, J. H.: Am. Med., Dec. 19, 1903.

rows of silk sutures. Suprapubic incision; thorough irrigation, with the escape of a large quantity of seropurulent fluid. Both wounds drained.

Postoperative History.—The patient did well until his second day, when he developed delirium tremens and died on the fifth day from this condition. His abdominal condition was perfectly satisfactory, but as there was no autopsy it was impossible to say what would have been the outcome but for the delirium tremens.

CASE 8.—L. F., male, aged 27; operated on at the Jefferson Hospital for perforated duodenal ulcer, May 8, 1905, five hours after the perforation; recovery. (Stewart.)

History.—This man had had severe indigestion for one week. Immediately after drinking a large quantity of beer he experienced violent epigastric pain which radiated to the right shoulder and quickly spread over the entire abdomen. This was associated with great rigidity and tenderness; the liver dulness was undiminished, and no fluid could be demonstrated in the flanks. The temperature was normal and the pulse 90 and strong.

Operation.—A diagnosis of perforated gastric ulcer was made and the abdomen opened through the upper right rectus muscle. There was no extravasation of stomach contents, except a little mucus. The perforation was on the upper surface of the duodenum close to the pylorus and was about one-eighth of an inch in diameter. It was closed with silk, the abdominal cavity irrigated, and a small gauze drain placed in the wound.

Recovery was uneventful.

CASE 9.—A. Z., male, aged 30; operated on at the Pennsylvania Hospital May 28, 1905, for perforated duodenal ulcer, twenty-four hours after the perforation; death within twenty-four hours. (Stewart.)

History.—The patient had been ill for twenty-four hours with severe abdominal pain and vomiting. There was general tenderness and rigidity over the abdomen, most marked, however, in the upper right quadrant; this with absence of liver dulness, led to a correct diagnosis. The temperature was 101, the pulse 140.

Operation.—An incision was made through the upper right rectus and a perforation found on the anterior wall of the duodenum near the pylorus. There were a number of adhesions and the peritoneal cavity was filled with pus and gastric contents. The perforation was closed with silk, the abdominal cavity irrigated and drained.

The patient died the following day.

CASE 10.—W. W. H., male, aged 33; Pennsylvania Hospital; perforated gastric ulcer; closure and drainage, December 29, 1905, five hours after onset; recovery. (Gibbon.)

History.—The patient was seen with Dr. J. Norman Henry three hours after the sudden onset of severe abdominal pain, not relieved by 1/2 gr. of morphin. The abdomen was scaphoid and extremely rigid. The pain extended to the back and to the right shoulder. There was nothing in the previous history that threw any light on the case. The severe character of the pain and its radiation to the shoulder suggested gall-stone colic. The patient had never vomited blood or passed blood by the bowel.

Operation.—Immediate operation was done. Gas escaped as soon as the peritoneum was opened, making a diagnosis of perforation certain. The gas was followed by a large quantity of the gastric contents. The dissemination of this material was very general. A perforation was found on the anterior surface of the first portion of the duodenum; it was large and surrounded by considerable cicatricial tissue. Perforation closed with one row of catgut sutures reinforced with a portion of the lesser omentum. Suprapubic incision made and abdomen thoroughly irrigated. Both wounds drained.

Postoperative History.—The patient made a good recovery. He was fed by rectum until the eighteenth day, and is at the present time perfectly well.

CASE 11.—E. F., female, aged 22, operated on at the Germantown Hospital, May 2, 1906, for perforated gastric ulcer, sixteen hours after the perforation. Recovery. (Stewart.)

History.—This patient had been treated for several years by Dr. R. P. Cummings for indigestion, associated with severe pain after eating and occasional attacks of vomiting. About sixteen hours before operation there was very severe pain in the abdomen, particularly in the right iliac region, but the greatest tenderness was in the left epigastrium. The abdominal muscles were rigid, the liver dulness normal, and no dulness in the flanks. The temperature was 99, the pulse 100, the leucocytes 24,000.

Operation.—A correct diagnosis was made and the stomach exposed through a median epigastric incision. A perforation ¼ inch in diameter and adherent to the anterior abdominal wall was found in the anterior wall of the stomach. There was no generalized peritonitis. The ulcer was closed with silk sutures and a posterior gastroenterostomy performed. The upper abdomen was irrigated and the abdominal wound closed without drainage.

The patient recovered and has remained well.

CASE 12.—P. C., male, aged 29, operated on at the Pennsylvania Hospital, Oct. 27, 1906, for perforated gastric ulcer, twelve hours after the perforation; recovery. (Stewart.)

History.—This man had complained of indigestion for a number of months, a gnawing pain appearing in the region of the pylorus about two hours after eating and being relieved by eating. On the day of admission after breakfast the pain became excessive and radiated to the back and shoulders. This was associated with marked rigidity of the abdominal muscles. The liver dulness was normal and there was no dulness in the flanks.

Operation.—About twelve hours after the onset of the pain the abdomen was opened through the upper right rectus muscle and a perforation, 1/16 of an inch in diameter, found in the anterior wall of the stomach, near the lesser curvature and close to the pylorus. This was closed with silk sutures, and as only the peritoneum of the upper abdomen was soiled the foot of the bed was raised; a gauze drain was passed to the region of the perforation.

Recovery was uneventful, but about one year later there was recurrence of the indigestion.

CASE 13.—McA., male, aged 45; Jefferson Hospital; perforated gastric ulcer; closure and drainage; Jan. 23, 1908; twenty-four hours after onset; death forty-eight hours after operation. (Gibbon.)

History.—The patient on admission to hospital was thought to be suffering from gall-stone colic and was treated for such. For ten days previous to admission he had suffered pain after eating. The family physician, Dr. Elinor Jones, reported that she had treated him several years previous for severe gastric symptoms. He was seen first eighteen hours after his admission when he had a board-like abdomen but no obliteration of liver dulness. His temperature was 97 and pulse very weak and about 104. The diagnosis of general peritonitis, due to perforated gastric ulcer, was made.

Operation.—The patient was in very bad condition with no pulse at the wrist. As soon as the peritoneum was opened gas escaped, followed by a profuse discharge of dark, thick fluid. The abdomen was so filled with this that two pitcherfuls of salt solution had to be used to wash it out before any structure could be recognized. The perforation, ¼ inch in diameter, was in the anterior wall of the pylorus; the ulcer being an old one. The perforation was closed with one row of linen thread sutures; a suprapubic incision was made; the cavity thoroughly irrigated; and both wounds drained. During the operation one quart of salt solution was injected intravenously.

Postoperative History.—The patient received the Murphy treatment for general peritonitis. He improved during the first twenty-four hours but grew worse the next day and died at 6 p. m.

CASE 14.—B. S., female, aged 30, operated on at the Jefferson Hospital, April 9, 1908, for perforated gastric ulcer, three days after the perforation; death in thirty-six hours. (Stewart.)

History.—Mrs. S. developed excruciating epigastric pain three days before admission; this quickly became generalized and was followed by symptoms of peritonitis. There was continuous vomiting, marked distension of the abdomen, great pallor, and a pinched face. The temperature was 101 and the pulse 140 and thready. A mass was found in the right iliac region both on external and vaginal examination. This was afterward found to be due to adhesions among the

intestines. A diagnosis of peritonitis, probably the result of a ruptured appendiceal abscess, was made.

Operation.—The appendix was removed and found to contain a segment of a tapeworm, but there was only slight inflammation of the mucous membrane. A second incision was made in the epigastric region and a hard mass about 2 inches in diameter and 2 inches from the pylorus found on the lesser curvature of the stomach; in the center of this indurated area was a minute perforation. The whole ulcer was inverted with silk sutures. There was a large quantity of purulent exudate throughout the abdominal cavity. After irrigation a gauze drain was placed in each wound.

Death occurred thirty-six hours later.

CASE 15.—G. G., male, aged 42, operated on at the Polyclinic Hospital, July 14, 1908, for perforated duodenal ulcer, five hours after the onset of pain; recovery. (Stewart.)

History.—The patient had suffered with indigestion for several months. Just before supper he felt a severe knife-like pain in the epigastrium, shooting to the right shoulder and later to the right iliac fossa and throughout the abdomen. The tenderness was most marked in the epigastric region. The liver dulness was normal and there was no dulness in the flanks. The abdominal muscles were tensely contracted, the temperature normal, the pulse 110, leucocytes 15,000. There had been no vomiting.

Operation.—A diagnosis of perforated gastric ulcer was made and the abdomen opened through the upper right rectus muscle. There was a generalized serous peritonitis and a perforation about ⅛ of an inch in diameter in the anterior wall of the duodenum ¼ of an inch from the pylorus; this was inverted with silk sutures and a portion of the gastrophepatic omentum fixed over the suture line, owing to the friability of the duodenal wall. The peritoneal cavity was irrigated and the pyloric region drained with gauze.

Recovery was uneventful.

CASE 16.—J. C., female, aged 60, was operated on at the Germantown Hospital, Aug. 11, 1908, for perforated gastric ulcer, four hours after the perforation; death in thirty-six hours. (Stewart.)

History.—Mrs. C. had had indigestion for a number of years and felt as if there was some obstruction at the pylorus. During the week before operation there had been epigastric pain and daily vomiting; blood was detected in the stools once. At 1 a. m. she was wakened from sleep with severe abdominal pain which was referred to the right iliac region. There was marked collapse, great rigidity of the abdominal muscles, and absence of liver dulness. The patient was seen with Dr. Edward Rhoads.

Operation.—A diagnosis of perforated gastric ulcer was made and the abdomen opened through the upper right rectus muscle. There was a large quantity of bloody fluid in the peritoneal cavity. The pylorus was hard, the induration extending 2 inches along the upper surface of the duodenum. There was a perforation just to the gastric side of the pylorus, about ¼ of an inch in diameter, with a piece of sloughing omentum plastered over it. The perforation was closed with silk sutures, and a posterior gastroenterostomy performed because of the narrowness of the pylorus and the previous obstructive symptoms. Owing to the extensive induration and the age of the patient a piece of the ulcer was excised for microscopic examination; no evidence of carcinoma was found by the pathologist. The abdominal cavity was flushed with salt solution and the right kidney pouch drained.

The patient vomited a large quantity of dark blood after operation and died at the end of thirty-six hours.

CASE 17.—W. B., male, aged 20, was operated on at the Jefferson Hospital, Sept. 12, 1908, for perforated duodenal ulcer, twelve hours after the perforation; recovery. (Stewart.)

History.—The patient had never had indigestion or abdominal pain up until two weeks before operation, when he began to complain of pain about the umbilicus, more marked after eating. Twelve hours before operation the pain became intense and shifted to the right iliac region. At the time of examination there were evidences of a generalized peritonitis which seemed to be most intense in the region of the appendix. The liver dulness was normal and there was no dulness in the flanks. The temperature was 101, the pulse 100 and the leucocyte count 12,000. There had been no vomiting.

Operation.—A diagnosis of appendicitis was made and the appendix removed through a McBurney incision. It was normal except for the presence of several concretions. There was a large quantity of purulent fluid in the abdomen and adhesions could be felt about the pylorus. A second incision was therefore made in the epigastric region and a perforation ¼ of an inch in diameter found in the anterior wall of the duodenum near the pylorus. After peritoneal lavage a gauze drain was placed in each wound.

The patient made an uneventful recovery.

CASE 18.—G. R., male, aged 48, was operated on at the Germantown Hospital, Oct. 12, 1908, for perforated duodenal ulcer, three days after the perforation; death in five hours. (Stewart.)

History.—There was no history of indigestion. The illness began with a sharp pain over the lower ribs on the right side, the pain being reflected to the back. The temperature was subnormal at this time; twenty-four hours later the patient developed a cough with mucous expectoration. The respirations were 40 and at the end of each there was acute pain in the mid-axillary line on a level with the fifth and sixth ribs, at which point a loud friction sound could be heard. The right chest expanded less than the left and there was dulness from the fourth interspace to the costal margin in the mid-axillary line, with impaired vocal fremitus and resonance. Numerous small râles could be heard over both lungs. The upper right rectus was moderately rigid but there was no tenderness in this area. The liver dulness was undiminished and no fluid could be detected in the flanks; the temperature was 100. We saw the patient at this time and thought the condition to be a beginning pneumonia. The following day there was marked improvement but on the third day the patient began to vomit quantities of dark fluid and passed a small quantity of bloody mucus by bowel. At this time we were asked to see the patient again. There was marked distention of the abdomen, absence of liver dulness, fluid in the flanks, no rigidity, and very little pain and tenderness over the abdomen. The leucocytes were 10,000, the pulse 90 and of poor quality, and the expression bad.

Operation.—It was thought that there was some intestinal obstruction or possibly a thrombosis of the mesenteric vessels, but owing to the seat of the initial symptoms the abdomen was opened through the upper portion of the right rectus. The liver was found pushed back by an enormous quantity of gas and foul black fluid. In the descending portion of the duodenum a perforation about ½ inch in diameter was found adherent to the under surface of the posterior and outer edge of the liver. It was exposed with great difficulty, sutured with silk, and covered with an omental graft. Irrigation was omitted and a large gauze drain passed down to the region of the perforation.

The patient died five hours later.

CASE 19.—T. H., male, aged 43; Jefferson Hospital; perforated gastric ulcer; closure and drainage, Dec. 23, 1908, twenty-six hours after perforation; death fourth day after operation. (Gibbon.)

History.—The patient was seen with Dr. E. E. Graham. He gave a history of occasional attacks of indigestion but never vomited. Twenty-six hours before the operation he was seized with sudden severe abdominal pain. At the time of the operation much of the rigidity had disappeared, being displaced by a distention of the lower portion of the abdomen. He had all the evidences of an extensive peritonitis, and from its sudden onset was thought to be due to a perforation of the intestinal tract.

Operation.—Gas escaped as soon as the abdomen was opened. The pelvis was filled with thick pus. The appendix was removed and a second incision was made above the umbilicus. A perforation one-eighth of an inch in diameter was found near the lesser curvature, about one inch from the pylorus. Perforation was closed with a continuous gut suture, and both wounds drained.

Postoperative History.—The patient did remarkably well for three days but died on the fourth from a spreading peritonitis.

CASE 20.—J. T. F., male, aged 50; Jefferson Hospital; perforated gastric ulcer; closure, posterior gastroenterostomy, drainage, March 7, 1909, seven hours after onset; recovery. (Gibbon.)

History.—The patient had had stomach trouble for twenty years. History was typical of gastric ulcer. The patient was seen first two hours after the sudden onset of severe pain, unrelieved by ¼ gr. of morphin given by his family physician, Dr. Himmelwright. Patient was anemic; his abdomen was scaphoid and of board-like rigidity; liver dulness was absent. The diagnosis of perforated gastric ulcer was easy.

Operation.—As soon as the peritoneum was opened there was an escape of gas. The perforation, measuring 1 inch in diameter, was found in the anterior wall of the pylorus. The ulcer extended all the way around the pylorus, and when the perforation was closed with a suture of gut and one of linen thread, the pylorus was completely obstructed. In the belief that there was probably a perforation on the posterior wall the lesser peritoneum was opened but no perforation was found. Because of the obstruction of the pylorus a posterior gastroenterostomy was done. When anastomosis was complete thirty-five minutes had been occupied in operation. A suprapubic incision was made, the cavity irrigated, and both wounds drained.

Postoperative History.—The patient was placed in the sitting posture and given the Murphy treatment. He made a prompt recovery and has remained well until the present time.

CASE 21.—J. G., male, aged 53, was operated on at the Pennsylvania Hospital, April 10, 1909, for perforated gastric ulcer, seventeen hours after the perforation; recovery. (Stewart.)

History.—This patient had slight indigestion for several weeks previous to admission. Seventeen hours before operation and just before supper he was seized with a severe pain about the umbilicus which quickly became generalized. The temperature was 100 and the pulse 130; vomiting did not occur. The abdominal muscles were moderately rigid, although a large dose of morphin had been given. The tenderness was most marked in the right iliac region, leading to a diagnosis of appendicitis.

Operation.—The appendix was found to be normal and the peritoneal cavity filled with a purulent fluid. Adhesions could be felt in the right hypochondrium and a second incision was made in the epigastrium. This liberated a large quantity of air and pus and revealed a perforation one-eight of an inch in diameter in the anterior wall of the stomach near the pylorus. This was closed with silk, the peritoneal cavity irrigated with salt solution, and both wounds drained with gauze.

Recovery was uneventful.

CASE 22.—W. P., male, aged 36; Jefferson Hospital; perforated gastric ulcer; closure, posterior gastroenterostomy; May 4, 1909, some days after onset; death twenty days after operation. (Gibbon.)

History.—The patient was admitted to the hospital suffering from an extensive peritonitis; very weak, with rapid pulse, and subnormal temperature. The abdomen was scaphoid and rigid, and liver dulness partially obliterated. The patient had been in bed three weeks suffering from nausea and vomiting. He was operated on one hour after admission. The time of perforation is indefinite but the patient had been suffering a great deal of pain for several days. His history indicated gastric ulcer.

Operation.—Gas escaped as soon as the peritoneum was opened and there was an extensive extravasation of the gastric contents. Perforation three-eighths of an inch in diameter was found in the pylorus; its edges were everted and hard; its closure, with one row of catgut sutures, nearly completely closed the pylorus and therefore a posterior gastroenterostomy was done. A suprapubic incision was made, cavity irrigated, and both wounds drained.

Postoperative History.—The patient was given the Murphy treatment and did well for two weeks, he then began to develop symptoms of septic infection and died on the twentieth day.

Autopsy.—The left chest was filled with pus and the lung was necrotic. There were a number of small collections of pus in the abdomen and a suppurating focus in each kidney.

PATHOLOGY

In these 22 cases the perforation occurred in the anterior wall of the stomach near the pylorus in 15 and in the anterior wall of the first portion of the duodenum in 7. The size of the perforation varied from 1/16 to ½ inch in diameter. It is our belief that probably all perforations are minute in the beginning and that they rapidly enlarge. Induration, indicating chronicity of the ulcer, was present in all of our cases. In three cases (4, 16 and 22), in which there had probably been a slow leak and then a sudden and profuse outpouring of the gastric contents, the perforation was large and the edges were thick and everted.

The extravasation has varied very much both in character and extent and depends largely on the acuteness and duration of the perforation. In the operations done in the early stages the extravasation consisted of the gastric contents. In the later stages it was found mixed with serum and pus. In only one case was the extravasation bloody. Plastic lymph was usually present about the site of the perforation, and in the delayed cases was often found about the ascending colon, cecum and small intestine occupying the pelvis. In one or two cases the appendix was covered with lymph, and but for a careful search would have caused the operator to think that here was the primary cause of the peritonitis.

In the large majority of the cases gas was free in the abdominal cavity and escaped the moment the peritoneum was opened.

SYMPTOMS AND DIAGNOSIS

In most of the cases a correct diagnosis was made before operation, and in all the symptoms were sufficiently urgent to demand immediate operation. In one case (18), owing to the atypical symptoms presented, the condition was not recognized at once. The following are the diagnoses made in these cases before operation: perforated gastric or duodenal ulcer, 15; acute appendicitis, 4; diffuse perforative peritonitis, 2; pneumonia and obstruction of the bowels, 1. It will be observed that the condition is most frequently mistaken for acute appendicitis. The history of previous indigestion extending over a long period; attacks of pain in the epigastric region, with vomiting; melena and more or less constant pain after eating, will aid greatly in turning attention to the stomach. In the slow perforations and early in the acute ones the extravasated material passes down the right side of the abdomen over the omentum or to the outer side of the colon to the right iliac fossa, and here gives rise to pain, tenderness and rigidity. Acute tenderness and rigidity is always present over the site of the perforation, however. The most typical history of the attack is that of a sudden severe pain, but little influenced by sedatives and accompanied by a board-like and scaphoid abdomen. Later with the diffusion of the peritonitis the abdomen becomes distended. With such a history and these signs alone perforation should be suspected and after the elimination, as far as possible, of other conditions, immediate operation should be done. Severe pain, tenderness and rigidity were present in all of our twenty-two cases. The pain is usually epigastric in the early stages and is apt to radiate to the back and sometimes to the right shoulder-blade, making confusion with biliary colic possible (see Case 13). Often the pain and tenderness later become most marked in the right iliac fossa, as the peritoneum in this situation becomes involved in a beginning and intense inflammatory process. The rigidity early becomes general in the acute cases and is absolutely board-

like. The scaphoid and rigid abdomen constitutes one of the most marked and valuable signs of perforation and continues until the peritonitis becomes so far advanced as to produce distention.

The mistake is often made of expecting distention of the abdomen at the onset when there is a perforation of the stomach as the result of the escape of gas. Distention is never present in the early stages, and when present it indicates an extent and degree of peritonitis from which patients will seldom recover.

The absence of liver dulness associated with a scaphoid and rigid abdomen is an invaluable sign of perforation. When the abdomen is distended the diminution or absence of liver dulness is of little value. The preservation of normal liver dulness is no indication that perforation is not present. The liver dulness was diminished or absent in 6 of our cases; was normal in 9, and not recorded in 7. Movable dulness in both flanks was present in 3 cases, was absent in 7 and not recorded in 12. Vomiting after perforation had occurred took place in 12 cases; did not occur in 6 and was not recorded in 4. Vomiting of blood occurred in 2 instances.

Collapse is of variable occurrence and should not be expected. It takes place early and may be profound. It is by no means common, and its absence is of little significance.

Arrest of intestinal peristalsis, as determined by auscultation, occurs only after the peritonitis is sufficiently advanced to produce paralysis of the intestine. It may be a diagnostic aid, but is not a very reliable sign of perforation.

The temperature in the early stages is usually normal, subnormal or but slightly elevated. Even in the later stages it is a mistake to expect high temperature, although it may occasionally occur. The pulse-rate is usually increased, and the pulse may be very weak if collapse is present. The respiration is entirely thoracic and shallow and the respiratory rate is increased.

Leucocytosis was not marked in the early stages in this series of cases, although in some of the advanced cases it amounted to 24,000. We would say that little dependence can be put on the leucocyte count in making a diagnosis in the early stages of perforation. In practically every case the symptoms are sufficiently urgent to demand immediate operation, and no delay should be made for the study of the blood, although, when possible, this examination should be made without delay. The history of the patient may be of great value in determining the cause of the peritonitis. It is important to question him regarding stomach symptoms, especially the occurrence of pain coming on at a fixed period after eating or coming on at night after retiring. A history of vomiting and eructations of gas are significant. Often the patient will say that for years he has had indigestion or dyspepsia. In two of our cases a definite diagnosis of gastric ulcer had been made before perforation took place; six patients had been treated for "stomach trouble"; and in several others the symptoms were sufficiently significant to have indicated ulcer. A history of indigestion was present in 16 of our cases; was not present in 4 and could not be determined in 2. Melena sometimes occurs without other symptoms of ulcer and it should be inquired for carefully. A history of melena was given in 4 of our cases.

Age and sex are of no diagnostic value, but it is interesting to note in regard to sex that, although gastric ulcer has until recently been considered more frequent in women than in men, yet in these 22 cases of perforation there were 18 men and 4 women. As regards age our youngest patient was 17 years old and our oldest 60 years. Between 17 and 30 years, inclusive, there were 9 cases; between 31 and 40, 4 cases; between 41 and 50 years, 8 cases, and between 50 and 60 years, 2 cases.

The immediate cause of perforation may be very difficult to determine. In a few cases, however, it may be quite apparent. Any force either from within or without the organ which increases the tension of its walls may be the determining cause of perforation. In one of our cases the perforation occurred when the patient was lifting a buggy; another occurred after drinking largely of beer, and in several cases reported by others perforation has occurred after drinking a carbonated water.

TREATMENT

From our experience in these cases we are convinced that success or failure in the treatment of perforated gastric or duodenal ulcer depends almost entirely on the time which elapses between the perforation and its operative repair. Of the 13 patients operated on within seventeen hours, all but one recovered, while the remaining 9, all operated on after twenty-four hours, died. These figures are striking and significant and, moreover, are in fair accord with those presented by other operators. Occasionally, of course, one may be able to save a patient after one, two or even three days, but these will usually be cases of subacute perforation. The first point, therefore, in the treatment which we would emphasize is the importance of operating as soon as those early symptoms, already enumerated, of perforative peritonitis present themselves, whether or not we are able to make a definite diagnosis of their cause.

The abdomen should be opened through the right rectus above the umbilicus, an incision which gives the easiest and widest access to the viscera probably involved. If by chance an incision has been made below the umbilical line it is better to make another one above than to increase the first until the stomach and duodenum can be reached. The first incision should not be closed until the necessity for drainage of the pelvis has been determined by the extent and character of the exudate. If the symptoms have led the operator to make the lower incision and he finds the pelvis filled with exudate and an appendix or a Fallopian tube involved in the inflammatory process, but not in such a condition as to account for the extensive peritonitis, and especially if free gas is present, he should at once turn to the duodenum and stomach and assure himself that a perforation has not occurred. We know of one instance, at least, in which this mistake has been made and, therefore, warn against it.

The perforation having been found, it should be rendered as accessible as possible and closed. The method of closure must vary with the character of the ulcer and especially with the degree of induration about the perforation. In the simple cases with little induration a continuous suture may suffice, while in other cases the most carefully placed interrupted sutures may result only in an unsatisfactory closure because of the friability of the tissues through which they pass. These are the cases in which an omental graft will be useful. The sutures should be of the Lembert type and placed well beyond the edge of the perforation. A second row of sutures may seem to be indicated and should be used if they can be introduced without too much constriction of the caliber of the pylorus or duodenum. If the constriction is too great, then a portion of the lesser or greater omentum should be stitched over the first row of sutures. We have never employed excision of the

ulcer and believe it to be unnecessary. The suture material employed in this series of cases has varied; one of us (Stewart) preferring to use silk and the other (Gibbon) chromicized or iodized catgut for the first row and linen thread for the second or linen thread alone if but one row is inserted. At this point the surgeon should assure himself that there is not a second perforation. In searching for the second perforation, however, one is not justified in opening the lesser peritoneal cavity for the purpose of examining the posterior wall of the stomach unless there is some distinct indication of a second perforation in this region.

The perforation having been satisfactorily closed, the next step in the operation is the toilet of the peritoneum. The question of irrigation at once arises and must be determined by the extent and character of the exudate. In all but one of our cases more or less irrigation was done. We believe that in the early cases with little extravasation simple cleansing with limited irrigation or moist sponges will suffice. When the extravasation is purulent or extensive, irrigation should be more or less general. It is a good plan to pour the irrigation fluid into the upper incision and allow it to flow into the pelvis and then out through a tube placed in the suprapubic wound. In this way the irrigation takes the course of the extravasated gastric contents. Evisceration is never indicated, and irrigation of every part of the abdominal cavity when the extravasation is limited to the right side and pelvis is a mistake. Drainage is necessary except in occasional cases of early perforation with little and limited extravasation. Drainage at the site of the perforation was employed in twenty-one of our cases and a pelvic drain also used in fifteen of these. In one of the successful cases no drainage was employed.

Gastroenterostomy may be indicated in addition to closure because the pylorus or duodenum has been shut off by closure of the perforation. We believe that this alone should be the indication for gastroenterostomy. In four of our cases a gastroenterostomy was done; in three because of the closure of the pylorus, and in the fourth with the idea of curing the ulcer. Two of the patients recovered and two died. In none of these could the result, either cure or death, be attributed to the gastroenterostomy. One of our main reasons for opposing gastroenterostomy in cases of perforation is that with proper after-treatment a cure can be obtained in nearly all of the cases. Even with considerable constriction of the caliber of the pylorus, liquids will pass and the tract will open up later, with the healing of the ulcer, to its normal capacity. There are distinct objections to performing a gastroenterostomy in the presence of a perforative peritonitis. In the first place, it prolongs the operation at least twenty minutes and it opens up to infection the clean lesser peritoneal cavity. Of course, there is some comfort after the patient has recovered in feeling that a gastroenterostomy has been done, but the justification for it in the majority of cases is very questionable. A subsequent gastroenterostomy may occasionally have to be done because of a recurrence of the symptoms. This was true in one of our twelve cases of recovery.

The after-treatment of these patients varies little from that in any case of peritonitis, excepting that rectal feeding is indicated in all cases in which closure without gastroenterostomy is done. It will be noticed that in our earlier cases we confined the feeding entirely to the rectum for a long period, but that in the more recent cases liquid nourishment was allowed by the mouth at a much earlier period without any marked difference in the results. Large quantities of salt solution by the rectum were used in the cases in which the peritonitis was extensive or of long standing.

The question of posture is one about which surgeons will probably always differ as we do. One of us (Stewart) believes that the right lateral posture is the one always to be preferred. The posture must be influenced to some extent by the situation of the drains. Where drainage at the site of the ulcer only is employed Stewart has used always the right lateral position and occasionally elevated the foot of the bed. Where a pelvic drain has been used Gibbon has always employed the Fowler position or some modification of it.

RESULTS

The results obtained in these cases may be divided into immediate and ultimate. In the twenty-two cases reported there have been ten deaths (all but one occurring in cases of operation more than twenty-four hours after the perforation) and twelve recoveries, all of patients operated on within seventeen hours after the perforation. In two of the fatal cases life was prolonged for three weeks. The table shows the time of operation and the results.

TABLE OF TIME OF OPERATION AND RESULTS

Case.	Time Between Perforation and Operation.	Cured.	Died.	Time of Death After Operation.
1.	16 hours.	1		
2.	36 hours.		1	11 hours.
3.	5 hours.	1		
4.	48 hours.		1	24 days.
5.	9 hours.	1		
6.	4 hours.	1		
7.	24 hours.		1	5 days.
8.	5 hours.	1		
9.	24 hours.		1	24 hours.
10.	5 hours.	1		
11.	16 hours.	1		
12.	12 hours.	1		
13.	24 hours.		1	48 hours.
14.	3 days.		1	36 hours.
15.	5 hours.	1		
16.	4 hours.		1	36 hours.
17.	12 hours.	1		
18.	3 days.		5	5 hours.
19.	26 hours.		1	4 days.
20.	7 hours.	1		
21.	17 hours.	1		
22.	Some days.		1	20 days.
		12	10	

The causes of death open up an interesting subject. Six of our ten deaths occurred within about forty-eight hours, presumably as a result of the peritonitis; one patient died twenty days after operation from general sepsis, pus being found postmortem in the pleura, abdomen and both kidneys; another died on the fourth day from an extension of the peritonitis; another on the twenty-fourth day after the perforation and seven days after a second operation done for obstruction, the result of a pelvic abscess; still another died on the fifth day from delirium tremens, the abdominal condition being satisfactory.

Except in one case in which a gastroenterostomy was subsequently required, all but one of the twelve patients who recovered have remained well. This one patient developed gastric symptoms some time after his operation, but these disappeared under medical treatment.

1608 Spruce Street—311 South Twelfth Street.

ABSTRACT OF DISCUSSION

ON PAPERS BY DRS. STILLMAN AND GIBBON AND STEWART

DR. W. J. MAYO, Rochester, Minn.: When I began the practice of medicine and surgery, operation for hernia was not considered until there was strangulation. We came to the point later when we no longer waited for strangulation, but

operated on certain patients who had been strangulated. Later, it seemed advisable to operate before strangulation could again occur. Later still, we came to the step of operating on patients to whom wearing a truss was disagreeable or in whom it was effectual, and now we operate without question as to whether there is any likelihood of strangulation occurring or not.

Almost the same conditions have been experienced in regard to appendicitis. We no longer wait for an abscess to form or for peritonitis to occur, but operate early. Dr. Deaver's and Dr. Ochsner's papers show clearly that pancreatitis is usually the result and a late result of gall-stone disease. We should not wait for these conditions to appear. And, finally, the last two papers show that the mortality of these operations is not from the operation *per se*, but rather from the condition, and this depends largely on the length of time patients waited before operation was considered.

I endorse what Dr. Stillman said in regard to the second group of cases apparently of hypertrophic stenosis, in which the patients recover. I am no longer certain that they do recover. We have a small group of patients who give typical signs of moderate stenosis when infants, but recover or partially recover, and then drag along for many years, finally come to operation which discloses a condition of partial hypertrophic stenosis which had caused much suffering and disability. The removed specimens show clearly the same pathologic conditions which existed in the infants operated on for stenosis.

In the treatment of the hypertrophic variety, I agree with Dr. Stillman that the posterior gastroenterostomy is the better operation of the two. To one who has actually had these almond-shaped tumors in hand at the operating table, it certainly looks as though a plastic operation would not be so safe as gastroenterostomy.

Drs. Gibbon and Stewart said that nearly all their patients had previous symptoms of ulcer, lasting for years before operation took place, and that those operated on within seventeen hours after perforation occurred, nearly all recovered. Those operated on later did not. I think that we should consider in the question of perforation that there are two classes of ulcers, the acute and the chronic. Where is the ulcer that Watson describes so beautifully and of which Fothergill wrote? The girl who while hanging up clothes on a line falls in a heap and the postmortem shows not one but many perforations! That is a rare form of disease and it is an acute toxic ulcer. I have seen but one such case in my experience. The ulcers we do see have not been described, because the patients do not die suddenly, but from a general peritonitis, and the real origin of the trouble has been obscured by secondary conditions and complications. We must always bear in mind that the postmortem does not show the condition as it existed in life, but that of which the patients died.

Speaking finally of the operation itself, I wish to endorse what Dr. Gibbon has said in regard to the operative treatment. It is better to close the ulcer and to drain, and then, if necessary, do a gastroenterostomy later than to do a primary gastroenterostomy, because, in the experience of von Eiselsberg, as well as of ourselves, the perforating ulcer cures itself. We have not had a single case of perforation in which there was relapse of the ulcer, and when trouble did appear late it was a secondary stenosis and not a return of the disease.

DR. JOSEPH C. BLOODGOOD, Baltimore: I wish to emphasize what may be called suprapubic exploration and pelvic drainage. Dr. Gibbon and his associates in the Pennsylvania Hospital, Philadelphia, have demonstrated the importance of pelvic drainage in all cases of general peritonitis. In all doubtful abdominal cases my experience teaches me that the suprapubic incision will allow better than any other single incision the best view of a rapid diagnosis. For example: In pancreatitis, especially acute cases, the suprapubic incision will expose the omentum and its fat necrosis at once and clinch the diagnosis. In one of my cases this was of great help, because when I made the incision to expose the pancreas I found no positive evidence of the disease until the pancreas was exposed through a great mass of fat. Another advantage of the suprapubic incision in all cases of peritonitis is that through this incision you can at once remove with gauze wet in salt solution the exudate; then you can pack the pelvis and other parts of the abdomen with gauze wet in salt solution. Now, while the surgeon is attacking the focus of the infection, whatever it may be, the patient is getting the advantage of this extensive drainage, which might be called temporary drainage. I have had a number of cases recently in which I have employed this temporary pelvic drainage, while I was attacking the focus of infection—appendix or stomach perforation—through a second incision.

In regard to perforation of the stomach, not the non-traumatic perforation, but those following bullet wounds, I would urge exploration of the posterior wall of the stomach in every case. In a recent case in which the patient recovered, I found for the first time that the best way to explore the posterior wall of the stomach is to approach the stomach as when performing a posterior gastroenterostomy. That gives a better view than can be obtained in any other way. Besides, this is close to the pancreas and we can drain through the opening in the omentum between the stomach and transverse colon. This drainage of the pancreas is an important point in treatment of perforation of the posterior wall of the stomach.

DR. F. C. SHATTUCK, Boston: We physicians, pure physicians, owe a great deal to surgeons and to their work of the past few years. For instance, our knowledge of peptic ulcers was formerly necessarily limited to the clinical symptoms and postmortem findings; we rarely felt justified in making the diagnosis in the absence of hemorrhage. As regards the postmortem findings, as Dr. Mayo well said, a distinction must be drawn between the disease and the results of the disease. Surgeons are, in a sense, vivisectors. They see disease and its results in the living body and have transferred many conditions from the incurable to the curable class.

As a physician, I am, naturally, conservative as regards operation, and I think that some surgeons have been too ready to operate for digestive disturbances. I see patients who have been operated on for gastric symptoms who are in no way the better for the operation. They have recovered from the operation, but they have not recovered from the disease nor have they been relieved of their symptoms. This remark has a wider application than simply to gastric cases. A busy practitioner in the vicinity of Boston, a first-class man in every way, said to me recently: "It is all very well, this modern surgery. The surgeons operate on patients, discharge them as cured, and then we have to take care of them for years." The fact that a patient can recover from an operation is not, of course, sufficient reason for doing an operation. It may be more blessed to operate than to be operated on. With any new procedure the pendulum is apt to swing too far at first, but it will swing back, an equilibrium will be found, knowledge will be increased, humanity will be benefited. In all this surgeons are playing an important part in which we physicians want to be helped and to help even by criticism.

DR. WILLIAM W. SKINNER, Geneva, N. Y.: Regarding the perforation of the stomach by bullets, we should not forget that the enlarged anterior bullet wound may furnish a convenient avenue for exploration and suture of the posterior stomach wall. In several instances I have done this successfully. Regarding the so-called medical cures in cases following gastric ulcer, I have recently had two cases in which stenosis following gastric ulcer had produced an enormous dilatation of the stomach. These patients had been treated by electricity, by diet and various other means, and since two weeks after the operation, after a period of from five to twenty years of suffering from dyspepsia and vomiting, and in recent months an inability to take any solid food, these patients are now eating everything without any distress whatever. These patients had run the entire gamut of nerve specialists, stomach specialists, and what-not. I wish simply to add these cases to those already mentioned.

Nervous Prostration.—A close analysis shows that the real cause of most so-called nervous prostration is failure of adjustment to environment, and is psychogenetic.—T. A. Williams, in the *Kansas City Medical Index-Lancet*.

PELLAGRA, ANCIENT AND MODERN

HOWARD D. KING, M.D.
NEW ORLEANS

Though the fact may not be generally known, it is none the less true that pellagra, cases of which are frequently coming to notice in various sections of the United States, has existed among us for many years unrecognized or, probably, erroneously diagnosed, and attracted but little attention. The startling developments of the disease in its various phases in this country during the past two years have aroused such keen interest, and in some cases anxiety, in the subject of the "new" disease, from both professional and lay points of view, that it may not be a waste of serious effort to inquire into the geographical distribution of the disease. Before referring to the history and published reports as to the occurrence and incidence of the disease, it will be worth while to study briefly the early history of maize, *Zea maidis*, which undergoes deterioration and, thereby, causes the disease under discussion.

Maize, otherwise known as Indian corn, *Zea maidis*, is of the natural order *Graminaceæ*. Stephen Ladislaus Endlicher, a noted Hungarian botanist and professor of botany at the Vienna University (1840) and author of "Genera plantarum," states that, while little of it is known in its natural state, it is probably indigenous to tropical America. Bonafon, a French naturalist and the author of "Histoire naturelle du Mais," asserts that corn had been cultivated from a very ancient period in the Asiatic islands under the equator, and quotes three authorities (Bock, 1532, Ruel and Fuchs) in support of this statement.

From Asia, corn was soon introduced into China, and shortly after the beginning of its cultivation there was transported westward. Later it was observed in India and Turkey, in the latter country being termed "Turkey corn," under which designation in the year 1597 John Gerard, an English surgeon and botanist, described seven varieties, and one species particularly which he called "Corne of Asia."

Both Gerard and Bonafon maintain that maize was first found in the far East, and that following the discovery of America it was reintroduced into Europe from that country. Embodied in Bonafon's work is a drawing of corn reproduced from a Chinese treatise on natural history, "Li-chi-tchin," dated 1562, seventy years after the discovery of the New World by Columbus. Santa Rosa de Viterbo, a Spaniard, declares, in conflict with these writers, that maize was introduced into Spain by the Arabs in the thirteenth century. Egyptian writers and students of archeology assert that they have never seen the likeness of corn reproduced on Egyptian monuments. Travel throughout Asia and Africa was quite extensive during the twelfth to the fifteenth centuries, inclusive, and yet no mention of corn is made until the sixteenth century.

That the views of both Bonafon and Gerard were erroneous is evident from the fact that the expeditions to the New World undertaken by Ponce de Leon, Hernando Cortez, Francesco Pizarro, Lucas Vasquez de Ayllon and Pamphilo de Narvaez, all in the beginning of the sixteenth century, had as members of their parties many who had previously traveled in the far East and they knew nothing of corn and had never seen it before their arrival in America. During the disastrous excursion of Pamphilo de Narvaez into the interior of Florida he and his companions seized several hundred bushels of corn from the Indians at a bay which they called the "Baia de Caballos," now Apalachee Bay; this was the first experience of the Europeans with corn as a foodstuff.

Baron Friedrich Heinrich Alexander von Humboldt, a celebrated German scientist and author, published in 1814 to 1834 the results of his American journey in a large series of volumes bearing the general title, "Voyage aux régions équinoxiales du nouveau continent." In this work Humboldt furnishes conclusive proof that maize was first found in America; that its introduction into Europe was not a reintroduction, and that at the time of the discovery of the New World it had long been cultivated there, "green corn" being considered an important item of food by the Indians. Many of the tribes celebrated its season with religious ceremonies and festivals.

Evidence as to the correctness of Humboldt's statement is found in the fact that in 1600 Baruino, in a medical treatise, called attention to a peculiar malady prevailing among certain tribes of the American Indians. From his meager description it apparently resembled the pellagra which we have to-day; and he ascribed it to the use of corn, which formed a part of the Indian's daily diet. Francesco Scipione, Marchese di Maffei, an Italian poet, archeologist and litterateur, a few months after the appearance of Baruino's treatise, made similar observations. At this time various travelers returning from the New World called attention to a disease noted in horses, as a result of which the animal becomes paretic and tabetic and also loses hair. This affliction in the horse was thought to be caused by eating bad corn. All of this evidence obviously demonstrates that the North American continent is the natural habitat of *Zea maidis* and consequently the original home of pellagra. The first mention of the disease in literature was made by Ramazzini, who called it "mal del padrone."

The first really authentic accounts of the disease come from Spain, where corn was introduced during the period of 1680 to 1700. It would appear that in 1735 it was observed in the vicinity of Oviedo, and twenty-seven years later, or 1762, Gaspar Casal describes the disease which he has seen in the Asturias and gives to it the name "mal de rosa." The term "lepra scorbutica" and "asturiensis" is also said to have originated with Casal. Among the peasantry the disease was at different times termed "mal de la rosa," "mal del sole" and "mal de la miseria." When the disease was found in this region it remained for a long time confined within very narrow limits. Oviedo is still the principal focus of the disease, but it is also prevalent in Cuenca, Lower Aragon, Saragossa, Navarre, Burgos and other provinces.

In Italy the disease was first reported from the neighborhood of Lago Maggiore, and in 1750, fifteen years after its first noticed appearance in Spain, it broke out simultaneously in the districts of Milan, Brescia, Bergamo, and Lodi. From these points it spread rapidly to Como, Cremona, Mantua and Pavia, and before the year 1798 the whole of Lombardy was a very pellagrous region. At the time of the wholesale infection of the Lombard region, the disease became endemic in Venetia on the one side and in Piedmont on the other almost simultaneously. With the beginning of the year 1800 the course of the disease was southward, and soon Emilia and Tuscany were invaded, the disease, however, becoming more prevalent in its original and earlier seats. Frapolli, physician to the Hospital of Milan, clearly described the disease in 1771, nine years after Casal had described the disease as "mal de rosa." To

Frapolli we owe the present name of the disease (from *pelle,* skin, and *agra,* rough), and the same writer declared that the disease was an ancient one and none other than pellarella, having been noted in 1578, as would be seen by reference to the regulations for admission to the Hospital Major of Milan at that time. At about the time Frapolli named the disease, Adoardi of Venetia called it "scorbutus alpinus." The disease spread to such an extent that the Venetian authorities, at the request of the Sanitary Commission of Venice, issued an edict in 1776 prohibiting the sale or exchange in the public markets of corn having a bad odor or taste. As a proper designation of the disease (corresponding to the symptoms observed), D'Oleggio in 1784 suggested that it be termed vernal insolation—the "sunburn of spring." During the same year the Joseph II Pellagra Asylum, a hospital for the special study of the disease, was established in Legnano by royal warrant, and the older Strambio appointed as chief physician. Giambattista Marzari, about 1810, was the first to call attention to the probable relation between maize and pellagra; and sixteen years later (1826) Vincenzo Sette declared that the principal cause of pellagra was fungi, producing acid decomposition in the fatty oils of the corn.

With the exception of the proclamation of the Venetian authorities, very little was done to check the ravages of the disease until Ballardini, in 1845, declared and demonstrated that pellagra was caused by eating damaged maize. His views as to the causation of the disease met with contemptuous ridicule from many quarters. While the discussion as to its cause waxed warmer the disease raged to such an extent that in the space of seventeen years (1839 to 1856) it increased from 14 to 28 per thousand, or from 20,282 to 38,777. This alarming increase aroused the Lombard government to action, with the result that a special commission was appointed from the Instituto Lombardo to look into the cause of the malady. This commission differed in its opinion from Ballardini. The report stated that, though Ballardini's theory as to damaged maize being the causative factor in the production of the disease was correct, the commission could not concur in his opinion that a diet free from maize influenced the disease; their own conclusions being that such a diet did not affect the progress of the disease one way or the other. The final conclusions of the commission certainly are not in accord with their first findings as to Ballardini's theory. All improvements in the condition of the afflicted peasantry or decline in the disease they attributed to better conditions of alimentation, and it may easily be seen that their findings were affected, at least in a measure, by an element of personal prejudice.

In the province of Vicenza the number of persons known to be pellagrous between the years 1853 to 1855 was 1,380; in 1860, 2,974, and in 1879 it had risen to 3,400; these figures, it will be noted, covered only one province. In 1879 it was estimated that the number of pellagrous peasants numbered 97,855, the distribution being as follows: Lombardy, 40,838; Venetia, 29,386; Emilia, 18,728; Tuscany, 4,382; the Marches and Umbria, 2,155; Piedmont, 1,692; Liguria, 148; Rome, 76. In Lombardy, where the disease has always attained its maximum, the most infected centers have been in the provinces of Brescia, Pavia, Piacenza and Ferrara. Next to Lombardy the disease raged most severely in Venetia and Emilia. In Lombardy, Venetia and Emilia, the number of persons actually afflicted with the disease (1880) formed 31.70, 30.52 and 23.66 per thousand of the agricultural population. That pellagra seriously affected the military recruiting in this section of Italy may be seen from the army report of 1878, wherein it is stated that 20 per cent. of the conscripts in Lombardy and 18 per cent. in Venetia were unfit for military duty by reason of pellagra. In 1874 the total number of known pellagrous lunatics in Italy was 945. In 1877 the number had increased to 1,348. Between the years 1879 and 1881, a period of two years, the disease had increased from 97,855 to 104,067. In 1899 the number of pellagrous peasants showed a slight decline, there being only 72,603 cases, or 10.30 per 1,000, reported. It is interesting to note that Lombardy, always the greatest stronghold of the disease, was surpassed by Venetia in the total number of cases according to the statistics of 1899, the figures being: Venetia, 39,882, or 34.32 per thousand, and Lombardy, 19,557, or 12.90 per thousand.

In a government report, "Annali di Agricoltura, No. 18," published in Rome, 1880, under the caption, "La Pellagra in Italia" (1879), the statistics for the St. Clement's Hospital of Venice for the period of the preceding six years are given, and it is not too much to say that they are startling. From it one may obtain some conception of the extent of the disease which the Italians so graphically call "il delirio della miseria."

The figures are as follows:

	Total No. Insane.	Pellagrous Insane.
1874	558	178
1875	595	153
1876	666	175
1877	802	215
1878	859	294
1879	924	337
Totals	4404	1352

In 1884 it was conservatively estimated that there were 10,000 pellagrins in Italian hospitals and insane asylums. A bill for the better prevention of pellagra was introduced in the Chamber of Deputies at Rome through the efforts of the Zannardelli cabinet in the spring of 1902. In 1903 it was calculated that there were in Italy 60,000 cases of pellagra. According to Dr. L. W. Sanbon, however, these statistics are very unreliable for the reasons (1) that the disease is one that is not usually admitted by the victim because it is by many considered degrading; (2) that the notification of its presence to the authorities is not compulsory; and (3) that the local authorities very often, for obvious reasons, endeavor to make it appear that it is decreasing in their respective districts. Sanbon believes that it would be no exaggeration to place at the figure 100,000 the cases in which the disease is plainly manifest; of these, 3,000 at least are in the lunatic asylums of the kingdom. The statistics of 1907 show no appreciable decline of the disease, and conditions, instead of being bettered, are stationary, though there has been a marked decrease in the number of deaths, from 3,987 in 1898 to 376 in 1907.

From France we obtain the following data: The first reliable information of the existence of pellagra in Gascony came from the vicinity of Arcachon in the year 1818, after which it spread along the coast of the Gironde and the Landes. Marchand, in 1826, called attention to the disease in the southern provinces of France. Dr. Petit, a French physician, took note of it about 1828, and states that it was more common in the Landes than in the Gironde district and that at one period in his memory there were 200 cases out of a population of 6,000. Lavinder states that the disease was first observed in France by the elder Hameau in the vicinity of Teste in the early part of the nineteenth century, 1818 (whence the name, "maladie de la Teste").

After leaving the Gironde and Landes districts the malady spread along the left bank of the Garonne and toward the Pyrenees mountains. In the vicinity of Dax the disease never assumed serious proportions.

At intervals, even at the present day, our attention is called to cases occurring in various parts of France.

Tuczek, in 1893, stated that 2 per cent. of the Spanish peasantry were pellagrous.

In Roumania the first recorded case was in 1810, and the medical profession is unanimous in tracing the disease to damaged corn imported from Italy by vessels in the coast trade. From the period between 1833 to 1846 the disease attracted much attention and was known to the people under the name of of "Buba Tranjilar." Between 1854 and 1859 it had increased considerably and gave much alarm to the government, as at that time the records pointed to 4,500 known cases, Moldavia having more cases than Wallachia. In 1885 there were 10,626 cases; in 1886, 19,797 cases. In 1898 the peasant population of Roumania was estimated at 5,300,000. Of this number, according to statistics, 21,272 were pellagrins. Triller, in 1906, calculated the number of pellagrous peasants in this country to be not less than 30,000, and possibly many more. In 1907 the number of pellagrins were supposed to number not less than 40,000. Conditions in Roumania, the same as in Italy, instead of improving, seem to have become aggravated.

Corfu, an island off the coast of Epirus, has also had its share of pellagra, the disease becoming endemic in that island beginning with the year 1856. In Corfu it exists in more than 30 out of a total of 117 communes, the proportion of cases for the whole island being 3.2 per 1,000 inhabitants. Typaldos, of Corfu, has given the disease a great deal of study.

The disease exists in Austria, where the Tyrol region has been the area most affected. In Bukowina, having a population of 38,000, pellagra affects 2.9 per cent. of the peasantry, and there are seventeen institutions in Austria for supplying the peasants with proper food. Austria has enacted legislation dealing with pellagra and, aided by popular education, the government expects to keep the disease within bounds.[1]

In Great Britain, peculiarly enough, the disease has been noted but twice, the first case being reported by Drs. Brown and Carruthers,[2] of Rock Ferry, England. The second case was reported by Drs. R. Dods Brown and R. Cranston Low,[3] assistant physicians in the Royal Edinburgh Asylum, in which institution it occurred in the current year.

In Africa pellagra was first recognized in 1847 by Pruner, who had studied the disease in Italy. Pruner's statements were criticized by Hirsch and others. Years later at a meeting of the medical congress held at Cairo from Dec. 18 to 23, 1892, Dr. F. N. Sandwith, M.R.C.P., and senior physician and lecturer on medicine at Kasr-el-Aini Hospital, Cairo, made a report on the disease and read a very able paper on its prevention. He states that, through the courtesy of Dr. J. Wornock, superintendent of the lunatic asylum of that region, he was able to note annually forty to fifty cases of pellagrous lunatics. Sandwith has seen more than 1,100 cases since 1893, and states that the disease is frequent in Lower Egypt, though not so prevalent in Upper Egypt. He declares that the percentage of pellagrins who become insane in Egypt is far lower than that of Italy. In June, 1902, Sandwith journeyed through eleven villages of Gharbieh and examined 315 men. Of these, 114, or 36 per cent., showed signs of early pellagra. An American, Passed Assistant Surgeon C. H. Lavinder, of the U. S. Public Health and Marine-Hospital Service, one of the foremost students of the disease, differs from the above statement of Sandwith, stating that the disease occurs rather extensively in Upper Egypt. The disease is endemic between 42 and 46 degrees north latitude, 11 degrees west and 26 degrees east longitude of Paris. The island of Corfu and several other small foci are outside of this area.

The disease has been observed in Algeria, Tunis, Bulgaria, Servia and in various sections of southern Europe. Reports as to the recognition of the disease have also been received from northern Portugal, Dalmatia, Croatia, Bosnia, Turkey, Bessarabia, Kherson and as far north as Poland. Low, one of the later investigators, while in Italy in company with Sanbon, saw several cases, and reported that it was the same disease he had encountered in the West Indies. Neirte has reported the disease from New Caledonia. Ray, in 1902, stated that he had noted several cases of pellagra in one of the districts of North Behar, India.

In the Americas, pellagra has been recognized in Barbadoes, Brazil, Uruguay, the Argentine Republic, and in Mexico in more recent years by Bouchard, as well as in the United States.

In the United States, sporadic cases of pellagra were recognized in New York and Massachusetts hospitals as early as 1863 and 1864. It was about this time that reports were received of an epidemic from the vicinity of Halifax, Nova Scotia. Reports of this outbreak of the disease were very meager and uncertain. It is a matter of interest that the medical records and memoirs of the Civil War do not contain any specific instances of cases bearing a resemblance to pellagra having occurred during the long struggle. Certainly, the culinary methods of the troops in the field at that time were anything but good.

In this connection it is fair to assume that every one recalls that during the war there were several large prisons or camps in the South created for the detention of prisoners of war captured by the Southerners. Omitting any reference to the minor prisons, I shall dwell here only on Andersonville and Libby prisons. With the sectional controversy as to the inhumane treatment of these prisoners by their captors, this history has no connection. Yet, making due allowance for possible brutality (perhaps a natural consequence of a bitter internecine war), the mortality rate in these two prisons was, indeed, staggering. It is generally known, of course, that the South was in the midst of a desperate struggle for governmental existence; that the ordinary industries of the entire section had been largely paralyzed, and that corn was one of the chief (if not absolutely the only one) article of diet. In the two prisons referred to, both situated in agricultural states, corn was necessarily generally used, and the bread furnished the prisoners is described as having been of very poor quality. Under these circumstances, the inquiring mind naturally asks if pellagra, unrecognized and unheeded, did not prevail in these prisons to a great extent. This line of thought might well be pursued with profit by other students of historical medicine; and I hope that as a result of the suggestion further inquiries of this nature will be made for the benefit of the profession and the public in general.

1. Vienna Letters, The Journal A. M. A., Sept. 4, 1909, liii, 808; Aug. 1, 1908, li, 420.
2. Brown and Carruthers: Practitioner. London, May, 1906.
3. Brown, R. D., and Low, R. C.: Edinburgh Med. Jour., September, 1909.

Dr. John P. Gray, of Utica, N. Y., and Dr. Tyler, of Somerville, Mass., at the annual convention of American Asylum Physicians, held in Washington, D. C., in 1864, reported two cases of suspected pellagra,[4] in each of which there were mental symptoms.

We hear no more of the disease until 1902, when Drs. S. Sherwell, of New York, and H. F. Harris, of Georgia, each reported a case. Between the first and second authentic accounts of the disease in the United States a period of thirty-eight years elapsed, and it is reasonable to infer that during that interval the disease was either erroneously diagnosed or unrecognized. Dr. Isaac M. Taylor, of Morganton, N. C., has seen seven positive cases of pellagra since 1905, and states that, reviewing his twenty-three years' care of the insane, he is now convinced that he has seen similar cases within that period. This is also the experience of Dr. J. Taylor, of Columbia, S. C. The two Taylors, one from North Carolina and the other from South Carolina, have expressed the opinion that the so-called "scrofulous" negroes were really pellagrous. W. S. Thayer, of Baltimore, recalls having seen a case in 1905 which he is convinced to-day was pellagra.

In 1907 a sporadic case of pellagra in Texas was reported by Dr. T. C. Merrill, of Colorado, Texas. During the same year the disease was recognized and reported independently by Dr. J. W. Babcock, superintendent of the South Carolina State Hospital for the Insane, and Dr. George H. Searcy, superintendent of the Alabama State Hospital for Colored Insane. In 1908 the disease was identified by two South Carolina physicians (Babcock and Watson, of Columbia) while in Italy, where they had gone for the purpose of studying the disease. They recognized the disease independently of each other. Within the past eighteen months, reports as to the occurrence of the disease show it to be of alarming frequency in the Carolinas, Georgia and Alabama. The Public Health Reports of the United States issued by the Treasury Department, vol. xxiv, No. 25, contains a table showing about 1,000 known cases of pellagra scattered in thirteen states. More than half of these have been reported from asylums or similar institutions. Since the inception of the present discussion a number of cases are coming to light in Florida, Louisiana and Mississippi. Sporadic cases have been reported from Texas, Arkansas, Kansas; and in the Eastern states the disease has been observed by various physicians in New York and Pennsylvania, and in the southern states of Maryland and Virginia. Dr. B. K. Ashford has recorded one case occurring in Porto Rico, and Dr. J. A. Hayne has seen two cases in the Panama Canal Zone. C. H. Lavinder makes a conservative estimate of at least 1,500 cases since 1906. He recently found from forty to fifty cases in the Illinois State Hospital for the Insane, at Peoria, Ill. From the testimony of the staff of that institution it now appears that the disease has existed for the last eight years and was only recently recognized.[5]

I have endeavored to trace briefly (1) the meaning and origin of the term pellagra; (2) the extent and location of the disease; (3) the labors of the foremost students of the disease in the United States. I have purposely refrained from touching the etiology of the disease, and for this phase of the subject would refer the reader to Sanbon's exhaustive essay.[6] Every student of the malady will gain much valuable knowledge and be amply repaid for his time by a thorough perusal of the valuable monograph on the disease by C. H. Lavinder.[7]

In the preparation of this paper I have consulted all the authorities accessible to me and have utilized whatever seemed essential to the discussion. No history is ever absolutely "original," but each must be culled from many sources. I do not assert that this essay is the result of years of painstaking personal investigation, but rather a summary of the works of some of the greatest students of the disease.

2131 Baronne Street.

4. Am. Jour. Insan., October, 1864.
5. A full report of this recent epidemic will be found in Treasury Department Reports, xxiv, 38, in that section bearing on the work of the Public Health and Marine-Hospital Service.
6. Sanbon: Brit. Med. Jour., 1905, ii, 1272.

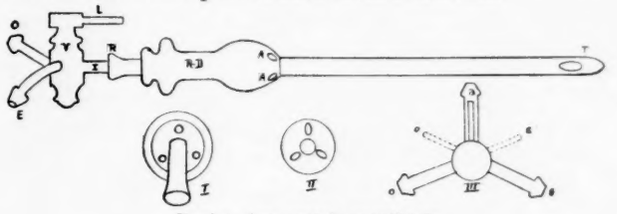
Clinical Notes

A NEW DEVICE FOR RECTAL ANESTHESIA

F. HOEFFER McMECHAN, M.D.
Anesthetist to St. Mary's Hospital
CINCINNATI, OHIO

Thus far in rectal anesthesia two phases of the administrative technic have given trouble: (1) the simultaneous supply of oxygen with the warmed ether vapor or its independent use after the completion of the operation to facilitate recovery, and (2) the accumulation of gas in the bowels without any satisfactory method of egress.

The accompanying sketch of a device for use in conjunction with the Cunningham apparatus shows how these troublesome phases have been overcome.



Device for rectal anesthesia.

V is the Haslam bladder-washer with an additional hole bored into the core at the opening O, and a groove cut across the core for one-third of the distance from the exit tube to the inlets, thus making a three-way valve. With the lever at I both oxygen and ether are admitted; the movement of the lever toward E gradually shuts off the oxygen and admits ether vapor alone; the lever moved toward O gradually shuts off the ether vapor and admits only oxygen. The tube from the oxygen water-bottle is attached at O and the tube from the anesthetic apparatus at E. The supply of oxygen and ether separately or in combination can then be regulated by the movement of the lever at the discretion of the anesthetist.

The three-way valve is connected with a flexible rectal tube (RT, French 27, American 18), which fits into an especially prepared rectal dilator (RD). This dilator is metal and of the self-retaining type. The caliber of the central channel is just large enough to admit the rectal tube on pressure, thus allowing an elongation or shortening of the tube projected into the bowel, which projection averages, according to Cunningham, between ten and twelve inches. Another series of channels extend from the tip to the butt of the dilator. These channels serve as air-vents for the egress of accumulated gases in the bowel and dispense with the necessity of introducing the finger into the rectum during the course of anesthesia to facilitate the egress of the accumulated gases.

7. Lavinder, C. H.: Public Health Reports, June, 1909, xxiv, No. 25.

The butt of the dilator with the air-vents and rectal tube is shown at I. II represents the tip of the dilator with the air-vents. III the valve with the lever turned to points indicating the combination of ether and oxygen or their separate use.

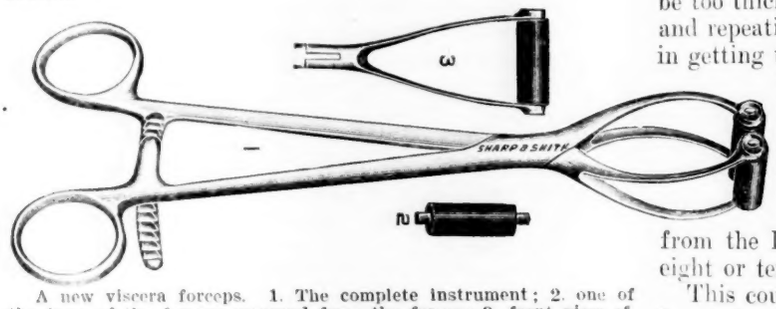
The device can be taken apart and sterilized by boiling, thus insuring asepsis and avoiding the danger of transmitting contagion.

639 West Seventh Street.

A NEW VISCERA FORCEPS

MILTON R. BARKER, M.S., M.D.
CHICAGO

In the forceps about to be described the jaws are round, made of steel, and so constructed that they can be removed in an instant by springing apart the supporting frame. Figure 2 represents one of the jaws of the forceps removed from the frame, and Figure 3 is a front view of a jaw section of one of the blades. The jaws are covered with rubber tubing, which projects beyond the frame of the instrument, thus preventing any tissue grasped being injured by it. The frame supporting the jaws is so fashioned that if, after being grasped, any bellying of the tissues takes place, as often does in handling the stomach or intestines, they cannot be injured as they cannot come in contact with the frame.



A new viscera forceps. 1. The complete instrument; 2. one of the jaws of the forceps removed from the frame; 3, front view of a jaw section of one of the blades.

A large or small amount of tissue may be included in the bite of the instrument as the case demands. The force that may be applied is regulated by the pliable steel frames supporting the jaws by the rachet in the handle of the instrument and by the rubber cushion covering the jaws. The greatest force that can be applied will not injure any of the tissues handled. The instrument, when applied, never slips nor loses its hold.

The forceps is made in two sizes. The jaws of the larger being seven-eighths of an inch long, those of the smaller one-half inch long. In other respects they are alike. The larger instrument best serves the purpose when handling the stomach or large intestine; the smaller is better adapted to gall-bladder, small intestine and appendix work.

While the instrument was designed for handling the abdominal viscera, I have found it useful in many surgical procedures, when it is necessary to handle organs or tissues without traumatism. I have recently delivered a kidney, with the larger instrument, with great satisfaction. So far I have used only plain, sterile rubber tubing on the jaws of the instrument, discarding the corrugated varieties. It is always best in this instrument, as in all others, with which rubber is used, to sterilize the instrument and tubing in separate vessels; otherwise the instrument is blackened.

4625 Greenwood Avenue.

AN IMPROVISED METHOD OF MAKING FROZEN SECTIONS FOR IMMEDIATE DIAGNOSIS

H. J. RELIHAN, A.B., M.D.
BURR OAK, KAN.

I have recently needed, on the removal of various pathologic tissues, to arrive at immediate diagnosis, and being in the average country office, without microtome and the accompanying conveniences of a city laboratory, I have been forced to improvise some method to meet the conditions.

Specimen of pathologic tissue held in tissue forceps for freezing.

After having removed the tissue I take a small piece, about 1 cm. square, and place it in the jaws of a common tissue forceps about 1 inch from the end, and then wind a small rubber band around the points of the forceps; the tissues are thus held securely, as shown in the illustration. Next I freeze the tissues, which is done with a common tube of ethyl chlorid; after freezing thoroughly I trim off most of the section roughly so that the surface of the tissue is about 2 mm. above the jaws of the forceps. It is again frozen, and a sharp razor, held at a good cutting angle, resting on the jaws of the forceps as a track, is drawn across the tissue. The first section will be too thick, but after freezing the third or fourth time, and repeating the same procedure, I have had no trouble in getting thin sections. The contraction of the forceps blades seems to be so much quicker than the tissue contraction that the projecting portion is about the right thickness for a section. By going through this procedure I have had no trouble in getting very thin sections, which answered my purpose perfectly. The time from the live tissue until the mount is made is about eight or ten minutes.

This could not be recommended where the slide is to be made for a permanent specimen, but it very well answers the purpose of a temporary mount for an immediate diagnosis, the same technic being used for mounting as in any frozen section.

A NEW TONSIL-SNARE

ARTHUR J. HILL, M.D.
CANTON, OHIO

This snare consists essentially of a stylet, sliding collar, wheel and cannula, in the upper part of which are two longitudinal slots. The sliding collar is fastened to the stylet by means of a thumb-screw which passes entirely through the collar and stylet. Threads are cut in the stylet only, thus preventing friction on either side and permitting instantaneous tightening of the wire on the tonsillar base, when a few turns of the wheel completes the operation. The illustration shows the mechanism very well.

A New Tonsil-Snare.

Its advantages are its ease, rapidity and certainty of operation, strength and simplicity, and the fact that it cannot get out of order.

604 Courtland Building.

BLUEBOTTLE FLIES AS CARRIERS OF INFECTIONS

W. FOREST DUTTON, M.D.
PITTSBURG, PA.

The bluebottle and blow- or flesh-flies are not so numerous in or about human habitations as the house-fly, yet they are not to be considered a minor factor as a carrier of disease. The *Lucilia cæsor* is the commonest bluebottle or greenbottle fly and is most likely to frequent houses before rain.

Some species breed exclusively on meat, while others may lay their larvæ on meat, open sores, decaying vegetable material, cow manure and undigested human dejecta. The larvæ grow rapidly and attain full size in about five days. They develop into adults in two weeks. The *Sarcophaga sarraceniæ*, which resembles an extra large house-fly, is, perhaps, the most abundant flesh-fly in this country.

The habits, breeding places and nature of these flies make them a tangible factor in the dissemination of typhoid fever. This can best be exemplified by citation of one instance in which such was the case: A bacilli carrier was attacked with acute indigestion and passed particles of undigested meat, etc. The stools were voided or deposited in a privy, standing two feet above the ground, some twenty yards from the dwelling. The stools were passed directly on the ground and were easily accessible to flies.

The flies fed freely on this dejecta and carried infected material on their hairy feet and body to the food used by the household. The result was that four members of the family were attacked at about the same time. Every other avenue for infection, except by flies, was excluded.

The human bacilli carrier, the infected bluebottles, the transmission to the meat (cold sliced) gave, in this particular case (from deductions and conclusions), the source of infection.

624 Pittsburg Life Building.

THE LATER STAGES OF EXPERIMENTAL MYOCARDITIS

A PRELIMINARY NOTE *

MOYER S. FLEISHER AND LEO LOEB
PHILADELPHIA

The investigators who employed frequently repeated intravenous injections of adrenalin into rabbits for the production of aortic lesions commonly noted at the autopsy not only blood-vessel but also myocarditic changes. So far it has not been possible to study the succeeding stages in the development nor the ultimate outcome of this disease.

A short time ago we found that one single injection of adrenalin (0.2 c.c.) cause in many cases a myocarditic lesion and that one injection of a combination of a relatively small dose of adrenalin and spartein or caffein produced macroscopic changes in the heart of the rabbit in about 60 per cent. of the cases and microscopic changes in almost all of the animals. We concluded therefrom that a cardiac and not an aortic lesion was the typical effect of intravenous injection of adrenalin. This enabled us to establish the sequence of events in the development of the myocarditic lesions. The change taking place during the first six weeks after the injection of adrenalin we have described elsewhere.[1] Since then we have studied later stages, namely, the period six to fifteen weeks after the injection, and here we wish to state briefly the main result of these studies, which we believe to be of interest from the point of view of human pathology also.

While up to approximately six weeks after the onset of the disease we found in many hearts very pronounced gross lesions, yellow discoloration, stiffening and loss of pliability, thickening of the wall of a part (sometimes the major part) of the left ventricle, we were surprised to see how completely such apparently far-going gross lesions can retrogress within a relatively short time.

The microscopic changes, which consist in the first period of the disease (comprising the first six weeks) principally of a considerable enlargement of the muscle fibers, increase of the connective tissue and some degenerative changes of the muscle fibers, show likewise retrogressive changes in the following period from six to fifteen weeks after the onset of the disease. It is very rare to discover vacuolization of the muscle fibers; the enlargement of the muscle fibers is considerably less marked; the appearance of the double nuclei in the muscle becomes much rarer. Now, however, at some places we find tracts of rather dense fibrous tissue and occasionally infiltration of small cells.

There can therefore be no doubt that very pronounced healing processes take place with a surprising rapidity and hearts which a few weeks after the primary injury showed marked lesions to the naked eye appear in many cases quite normal a few weeks later. Thus relatively small lesions can be detected in such cases only through microscopic examination.

It will be of great interest to follow the fate of the fibrous bands which develop in such hearts. We hope to be able to report on this question at a later date.

* From the Laboratory of Experimental Pathology, University of Pennsylvania.

1. Fleisher, Moyer S., and Loeb, Leo: Experimental Myocarditis, Archives of Internal Medicine, February, 1909, iii, 78.

A SMALL LOCALIZED EPIDEMIC OF AMEBIASIS

WILLIAM ALLAN, A.B., M.D.
Professor of Parasitology, North Carolina Medical College
CHARLOTTE, N. C.

In June, 1909, a person with amebiasis moved into House 3 on North Johnson street. The five households in this row all used water from the well between Houses 1 and 2. This is a surface well, about twenty-five feet deep and in no way protected from surface drainage. The privies are all directly back of the houses, on higher ground than the well, at a distance varying from 50 to 150 feet.

On August 16 three people in House 5, three in House 4, and one each in Houses 3, 2 and 1 complained of sore mouth; some of them had diarrhea, some of them only intestinal fermentation without diarrhea. These sore mouths had all developed within the past two weeks and all presented the same appearance—dry red erosions at the angles of the mouth with a dry, brick-red, bald, fissured tongue.

When the first one was seen, pellagra was suspected; when representatives from every house on the street presented themselves, it became evident that the trouble was epidemic, and amebic dysentery was the next most natural thing to suspect. This suspicion was heightened when a history of recently acquired diarrhea was obtained from about half the sufferers.

On August 17 a microscope was carried out and *Entamœba histolytica* found in the stools of two patients in House 5 and in one of the two patients examined in House 4. The other patient in House 5, and the patient in House 3 (son of the original patient), together with the patients in whose dejecta amebæ were found, all showed eosinophilia. Unfortunately, it was impossible for a man in general practice to make a routine examination of the blood and feces of every one living in the five houses. Within three weeks three of these households had moved, one to another mill section of Charlotte, one to another North Carolina town, and one to parts unknown.

The dysenterics at once attributed their sickness to the well used by all in common. They said that the water smelled bad, and were unanimous in saying that it "griped" them. A specimen of this water, with scrapings from the well bucket, was taken at once. This showed algæ, vorticellæ, several varieties of low animal life that were unknown to us, and amebæ corresponding in size and appearance to the *histolytica*. We cannot say definitely that these were pathogenic amebæ. The use of the well-water was stopped at once, and in the families we have been able to keep track of, no new cases have developed. The owner of the property very humanely put in a safe water-supply.

In view of the wide-spread prevalence of amebiasis throughout the South, it is imperative that the local health authorities take some steps to abolish the careless and almost universal custom of soil pollution that prevails in this section.

DISAPPEARANCE OF A LARYNGEAL GROWTH, PROBABLY CARCINOMA, WITHOUT TREATMENT

JOSEPH B. GREENE, M.A., M.D.
BIRMINGHAM, ALA.

The following case presents some points of interest worthy of reporting, as it seems to correspond with a certain class of cases recently referred to by Jonathan Wright.[1] Till Wright's paper appeared, I had been almost convinced that my case was one of benign papilloma, in spite of the fact that the growth had all the macroscopic appearances of early malignancy. The opinion that the growth was malignant was shared by Dr. E. Fletcher Ingals, who saw the patient in June, 1908. Now I am of the opinion that the tumor was carcinoma, but disappeared without treatment. As to this fact, however, we can never be sure, as the patient declined to have a specimen removed with a view of prompt laryngectomy, or, at least, laryngotomy.

Patient.—A physician and friend, aged 50, first consulted me May 2, 1908. He had always enjoyed good health; had been a hard-worked physician for about twenty years. He smoked cigars and pipe moderately. There was no history of syphilis or tuberculosis. Family history negative, except that the patient's paternal grandfather died, probably of carcinoma. The patient's present condition was that of a fairly well-nourished man, though he looked a little older than 50. Three months before examination patient began to complain of slight pain in the throat, worse at times, when larynx was in a certain strained position.

Examination.—Chest negative. No glandular enlargement on neck or elsewhere. No cough. Hoarseness very slight, hardly noticeable. Markedly deviated nasal septum. Some nasopharyngeal catarrh present. A small growth over the center of the left vocal chord, about the size and shape of a small grain of wheat, attached to the upper and inner side of the chord; not pedunculated; surface somewhat uneven, and attached base distinctly red.

Course of Disease.—On May 19, 1908, there seemed to be some increase in size. On June 4, patient was seen by Dr. Ingals in Chicago, who pronounced the case probably carcinoma. He advised the use of tuberculin for diagnostic purpose, and if no reaction occurred, then a removal of a fragment of the growth for examination. If found to be carcinoma, he advised laryngectomy, or at least laryngotomy. In this advice I coincided. At this time (June 4) I again advised the patient's return to Chicago for examination and operation, if necessary. Patient seemed to agree as to the probable diagnosis, but preferred to continue his work as long as possible and to avoid a severe operation, which would probably cause serious impairment or entire loss of his voice. The tuberculin gave the patient unpleasant symptoms, such as headache and dizziness, and was, therefore, discontinued. The small dose gave no reaction either in appearance of the growth, or a rise of temperature. On Oct. 7, 1908, patient reported at my office for examination, and to my surprise and delight there was no sign of the growth to be seen.

While the result of the above case was very satisfactory without surgical measures, far be it from my mind to recommend delay or expectant treatment of such growths.

803 Title Guarantee Building.

1. Wright, J.: Laryngoscope, August, 1909, New York Med. Jour., July 17, 1909.

CECOSTOMY—THE OPERATION OF CHOICE FOR TEMPORARY DRAINAGE OF THE COLON

C. C. ALLISON, M.D.
OMAHA

For that class of cases, in which colostomy is indicated, for physiologic rest of the colon, the problem of efficient drainage is paramount, but the subsequent closure of the opening in the bowel is a surgical problem hardly secondary in importance to successful drainage.

Appendicostomy can not be accorded more than a limited field of usefulness, because in a great majority of cases it is diversion of the fecal current, rather than irrigation, that is the essential therapeutic aid; nor will the mere opening of the ascending colon afford sufficient drainage in the more severe types of colitis.

It is my experience that cecostomy can be so accomplished by rotating the cecum upward and outward and making the opening opposite the ileocecal aperture, then not only efficient drainage is accomplished, but, what becomes most practical in the subsequent management, the closure of the opening in the cecum can be done with the utmost ease by the surgeon and with perfect safety to the patient.

It is true that a part of the cecum is sacrificed, but the danger of stricture is eliminated, a complication which is actual in case of simple colostomy, without a spur, and the dangers of an anastomosis is avoided, as would be the case with the Maydl tube.

Cecostomy has appealed to me, therefore, as being the operation of choice, when the fecal current is to be temporarily diverted from the colon, both because it affords more efficient drainage and because the closure of the opening becomes a minor surgical procedure.

A Model City.—If we had a national department of health it could assist in making our national capital, the city of Washington, into a model sanitary city, free from insanitary tenements and workshops, air pollution, water pollution, food pollution, etc., with a rate of death and a rate of illness so low as to arouse the attention of the world.

New and Nonofficial Remedies

SINCE THE PUBLICATION OF THE BOOK "NEW AND NONOFFICIAL REMEDIES, 1909," THE FOLLOWING ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK ARE ASKED FOR.

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT SO FAR AS KNOWN IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

(*Continued from page 869*)

SOLUBLE FERRIC ARSENITE—Ferri Arsenis Solubilis.—Ferric Arsenite and Ammonium Citrate.—Ferric Arsenite made soluble by the addition of ammonium citrate.

Soluble ferric arsenite occurs in green scale, easily soluble in water; it contains 1.06 per cent. arsenic, equivalent to 1.4 per cent. arsenous oxide, and iron, equivalent to from 15 to 18 per cent. elementary iron.

Actions and Uses.—Soluble ferric arsenite is a hematinic said to be particularly indicated in anemia, complicated with malaria, in pernicious anemia and in pellagra.

Dosage.—0.03 to 0.065 Gm. (½ to 1 grain). It may be given by subcutaneous injections in the gluteal region in doses of 0.03 Gm. (½ grain) dissolved in 1 Cc. (15 minims) of water every two or three days.

Non-Proprietary Preparations:

Ampules Iron Arsenite Solution S. & D.—Each Ampule is said to contain 0.06 gm. (1 grain) of soluble iron arsenite, dissolved in 1 c.c. (16 minims) of distilled water, representing closely 0.00092 gm. (1/70 grain) of arsenic trioxide and 0.0092 gm. (1/7 grain) of metallic iron.

Prepared by Sharp & Dohme, Baltimore, Md.

ANTIPYRINE SALICYLATE—Antipyrinæ Salicylas.—(See N. N. R., p. 24).

Proprietary Preparation:

SALIPYRINE.—A name applied to antipyrine salicylate.

Manufactured by J. D. Riedel Aktiengesellschaft, Berlin, Germany. (Riedel & Co., New York.) U. S. patent No. 444004. U. S. trademark No. 19043.

PARA COTO—(Coto[1]).—The bark of an undetermined South American tree, probably a species of Cryptocarya.

Para Coto occurs in pieces which are of considerable size and thickness, 30 cm. (12 in.) wide and 1.5 cm. (⅝ in.) thick. The outer surface is of reddish-brown or cinnamon-brown color. It is sometimes fissured longitudinally and transversely, and sometimes nearly smooth, with occasional patches of whitish cork. The inner surface is coarsely striated. It breaks with a fibrous, splintery fracture, and the smoothed transverse section exhibits a thin, brown cork within, which is a narrow cortex separated by a line of sclerenchymatous cells from the very thick bast, which is well characterized by the presence of abundant groups of sclerenchymatous cells. The odor is spicy and characteristic, the taste aromatic and pungent. (Para coto is exported from Para at the mouth of the Amazon, and should therefore be called Para coto and not paracoto.)

The chief constituent of Para coto is paracotoin, an indifferent crystalline, bitter principle along with hydrocotoin, methyl hydrocotoin protocotoin, methyl protocotoin (oxyleucotoin), phenyl coumalin, piperonylic acid, volatile oil, resin and tannin.

Para coto is distinguished from coto by the action of nitric acid on the ether extractive matter. In the case of Para coto the result is the formation of a yellow color and in the case of coto a red color appears.

Actions and Uses.—Paracotoin is irritant to the gastrointestinal tract and is similar to cotoin but is weaker. Para coto is used like coto as an appetizer and for diarrhea and dysentery and similar disorders.

Dosage.—0.05 to 0.5 Gm. (1 to 8 grains).

PARACOTOIN.—A principle, $C_{12}H_8O_4$, from Para coto.

Para coto is extracted with ether and the ether extract distilled. The residue is fractionated by repeated crystallizations from hot alcohol. The first body to separate out is paracotoin.

Paracotoin is a pale yellow, crystalline body, neutral in reaction, tasteless and odorless, melting at 149°-152° C. (300.2°-305.6° F.). It is difficultly soluble in water, but easily in ether, chloroform and boiling alcohol. Concentrated sulphuric and nitric acids dissolve it, forming a yellowish-brown solution

1. While commercially, Para coto and coto are sold indiscriminately, botanists make a definite distinction between them

On boiling with a solution of caustic alkalies, a colorless crystalline body, melting at 82°-83° C. (179.6°-181.4° F.), and having the odor of coumarin is formed; this body is acetopiperon (paracumarhydrin) $C_9H_8O_3$ or $C_6H_3\ O_2CH_2.CO.CH_3$, and paracotoic acid $C_{12}H_{10}O_5$ a yellow amorphous mass melting at 108° C. (226.4° F.). Paracotoin fused with potassium hydroxide yields principally piperonylic acid $C_8H_6O_4$.

1 Gm. of paracotoin shaken up with 10 Cc. of fuming hydrobromic acid forms a semi-solid mass of yellow crystals, which on drying over potassium hydroxide lose hydrobromic acid. This residue decomposed with water and recrystallized forms paracotoin, recognized by its crystalline form and melting point.

By gradually adding about 1 Gm. paracotoin to about 10 Cc. concentrated nitric acid, a red-brown solution will result, which, when heated for a short time on the water bath and cooled, deposits a yellow crystalline mass. This product recrystallized from acetone and then from benzene or glacial acetic acid forms golden yellow crystals, melting at 195° C. (323.0° F.). This body is dinitro paracotoin, probably of the formula $C_{12}H_6\ (NO_2)_2O_4$.

An excess of bromine added to a 10 per cent. solution of paracotoin in chloroform cooled to 0° C. produces a deep yellow precipitate, which loses hydrobromic acid, and when recrystallized from alcohol forms the mono-bromide of paracotoin, melting at 200°-201° C. ($C_{12}H_7BrO_4$).

Actions and Uses.—See para coto.

Dosage.—0.06 to 0.18 Gm. (1 to 3 grains).

MERGAL.—Mergal is a mixture of 1 part of mercuric cholate and 2 parts of albumin tannate put in capsules, each capsule said to contain approximately 0.15 Gm. (2¼ grains) of mergal equivalent to 0.05 Gm. (¾ grain) mercuric cholate and 0.1 Gm. (1½ grains) tannin albuminate. Mergal contains approximately 4.4 per cent. mercury.

Mercuric cholate is prepared by a patented process, mixed with albumin tannate, and inserted into gelatin capsules in the usual way.

Mergal is a yellowish white, loose, somewhat light powder, insoluble in water and alcohol and almost insoluble in solution of sodium chloride.

When 0.1 Gm. of mergal is shaken with a few drops of saturated solution of cane sugar and underlaid with concentrated sulphuric acid, a purplish red to reddish violet zone is produced.

If 0.2 Gm. of mergal is warmed on the water bath with 10 Cc. of hydrochloric acid for about fifteen minutes and the evaporated water replaced after cooling and filtering, there results a colorless or slightly yellowish solution which gives a black precipitate with solution of hydrogen sulphide. The same filtrate gives with a drop of stannous chloride solution an immediate precipitation of metallic mercury.

Mergal should leave no weighable residue on incineration.

0.2 Gm. of mergal boiled for one minute with 20 Cc. of water gives a clear filtrate which is colored dark violet on the addition of a drop of solution of ferric chloride.

0.1 Gm. of mergal when heated with a mixture of 5 Cc. of concentrated sulphuric acid and 5 Cc. of water to boiling, produces a turbid reddish solution. The filtrate after dilution with 3 to 4 parts of water and the addition of a drop of solution of copper sulphate gives on careful underlaying or on mixture with an excess of sodium hydroxide solution an evanescent violet-red color. Mergal should be protected from the light.

Actions and Uses.—Mergal is said to pass through the stomach without decomposition and to be decomposed into its constituents in the small intestine, where the mercury is quickly absorbed into the blood and excreted through the kidneys. It is said to be useful in all forms of syphilis and in the para-syphilitic affections, such as diabetes and general paralysis. It is also said to be useful for the chronic intermittent treatment according to the method of Fournier and Neisser.

Dosage.—One capsule three times a day after meals, gradually increasing to two capsules five or six times a day.

Manufactured by J. D. Riedel Aktiengesellschaft, Berlin, Germany (Riedel & Co., New York). U. S. patent No. 811193. U. S. trademark No. 53919.

N. N. R. ARTICLES AMENDED

ADRIN SOLUTION 1-500

The H. K. Mulford Co. has informed the Council that the epinephrine used in making adrin solution 1-500 (see N. N. R., 1909, p. 53) is no longer made by the method of Abel, but by the method of v. Fuerth (Hoppe Seyler's Zeitschrift für physiologische Chemie, vol. xxvi, p. 15).

ARTICLES ACCEPTED FOR N. N. R. APPENDIX

Manhattan Eye Salve Co., Owensboro, Ky.:

Argyrol Ointment (M. E. S. Co.).—An ointment said to consist of argyrol 10 per cent.; hydrous wool fat, 25 per cent.; white petrolatum, 65 per cent. Put up in collapsible tubes, for application to the eye.

Dionin Ointment (M. E. S. Co.).—An ointment said to consist of dionin 5 per cent.; white petrolatum, 95 per cent. Put up in collapsible tubes, for application to the eye.

Holocain and Adrenalin Ointment (M. E. S. Co.).—An ointment said to consist of holocain 1 per cent.; adrenalin chloride, 4 per cent.; hydrous wool fat, 10 per cent.; white petrolatum, 85 per cent. Put up in collapsible tubes, for application to the eye.

Sharp & Dohme, Baltimore, Md.:

Compressed Tablets Atoxyl and Iron.—Each is said to contain atoxyl 0.02 gm. (1/3 grain) and ferrous lactate 0.06 Gm. (1 grain).

(*To be continued*)

Therapeutics

ALCOHOL

In spite of the many discussions on this subject, the question is still open as to whether alcohol should ever be used as a therapeutic agent.

The whole general discussion of alcohol is grossly unfair to it as a component part of the materia medica. Who would think of describing the poisonous effects of large doses, or the dire effects from the prolonged use, of some drug of the Pharmacopeia other than alcohol, when the discussion was on the value of that drug as a therapeutic measure? Large doses of alcohol are harmful; repeated large doses are pernicious; and an alcohol habit is ordinarily bad physiologically, pathologically, and morally. But if we are to be fair to alcohol as a drug we must discuss it as we would any other drug, viz.: describe its physiologic action in therapeutic doses, the indications that it may therefore meet, and the undesired symptoms and conditions that it may successfully combat. Next we must discuss the possibility of some other drug acting as well to meet these indications. In other words, are there other drugs that act physiologically similar to alcohol? Next, does this drug cause the alcohol habit if used therapeutically, and, if so, how frequently?

To answer the last question first, very rarely does any patient acquire the alcohol habit from its medicinal use during an acute disease. If such has occurred, it was because of a tendency to the habit, inherited or acquired, and it was only a question of opportunity or environment for it to develop. A physician should not be excused, except perhaps in rare instances, and that generally in old age, who orders alcohol for a chronic condition, and the legitimate use of alcohol in chronic conditions is so limited as to be hardly a subject for discussion.

We then come to the physiologic action of alcohol that is desired or can be utilized to combat diseased conditions or undesired or dangerous symptoms. To discuss this properly, alcohol must be classified therapeutically. The objects for which it has been used, and its physiologic action, have caused it to be classed as a stimulant, a vasodilator, a narcotic, a hypnotic, and a stomachic.

It is a mistake to class alcohol as a stimulant, as this carries with it a mistaken idea of the physiologic action. While it may stimulate the heart and raise arterial pressure momentarily, its secondary effect is a cardiac depressant and a vasodilator. The only time when alcohol is a stimulant is in acute cardiac failure, and then it is stimulant to the heart only before its absorption, reflexly from the irritation, when taken in concentrated solution, of the mucous membrane of the mouth, pharynx, esophagus and stomach, the rectum, if it is administered as an enema, and the tissues, if it is given hypodermatically. To obtain such stimulation it is, of course, a recognized fact that the alcohol must be a strong preparation, either brandy, whiskey, gin, rum, or champagne. This reflex irritation through the vasomotor center temporarily raises the blood pressure, and perhaps through the accelerator nerves stimulates the heart. To keep up this stimulation, another dose must soon be given, in from fifteen minutes to half an hour or an hour, depending on the prolongation of the heart weakness. The dose of alcohol for such stimulation should be small in order that the results from the subsequent absorption will be the minimum, as the vasodilator effects are not desired. If the alcohol is administered too frequently, it accumulates in the system before the previous doses can be burned or eliminated, and then to obtain stimulation it will be necessary to give a larger, concentrated dose to cause sufficient irritation and stimulation to overcome the depression of the previous doses. The result of such medication is very obvious. Soon the vasodilatation is increased, the heart is depressed, the nervous system more or less paralyzed, and depression is added to depression; and the treatment is vicious. Consequently, the only excuse for using alcohol in any form as a cardiac or circulatory stimulant is when the depression or syncope is short lived, or perhaps as a primary stimulant in acute collapse. In any prolonged circulatory depression alcohol is contraindicated.

In conditions of prolonged fever in which alcohol is given no more frequently, for any length of time, than every three hours, one dose is probably eliminated before the next one is administered. The real value of its administration is due to the dilatation of the peripheral blood vessels, which equalizes the circulation and reduces the temperature.

As an actual narcotic alcohol is rarely used, and should not be so used. As a secondary effect of therapeutic doses its general tendency to quiet nervous irritability in seriously ill patients may be desired and utilized, but to use alcohol as a narcotic directly when other symptoms do not indicate its use is ordinarily inexcusable. In serious feverish conditions undoubtedly the narcotic action of alcohol quiets a patient who is highly alert to his danger, and may be of distinct advantage, as mental worry and anxiety are aids and abetters of disease which should be overcome by any legitimate means.

The discussion of the use of alcohol really resolves itself into a discussion of its value as a vasodilator. Vasodilatation is often indicated in feverish processes, i. e., in acute disease, and at any time when the pulse tension is high and the surface circulation sluggish. If we can slow the heart, dilate the peripheral blood vessels, increase perspiration, and quiet the nervous excitation and restlessness, our acutely sick patient is not only more comfortable, but in a safer condition and better able to withstand the acute disease. Alcohol in proper doses will do this. A rapid heart will become slower and regular, the blood vessels fuller and softer, the skin warmer, and the circulation be in better equilibrium, i. e., internal congestions will be relieved and the surface circulation, even in the feet, improved; normal perspiration is established; the brain is relieved of pressure by more blood going to the surface of the body; the slight narcotic effect of a small dose of alcohol quiets and may cause sleep, and the patient is improved.

A physician who says he has not seen these good effects from alcohol has not practiced medicine in acute disease. If alcohol acts undesirably, the following symptoms occur: flushing of the face, dry skin, dry tongue, throbbing, bounding pulse, and the odor of alcohol on the breath. Such symptoms positively show that alcohol is contraindicated or that the dose is too large, and until lately the consulting physician often saw delirium and meningismus, especially in patients suffering from typhoid fever and pneumonia, which was caused by too large and too frequent doses of alcohol.

The successful use of alcohol in feverish processes means a careful analysis of the need for it, a careful study of its action, and then a regulation of the dose and frequency to obtain the desired, and none of the

undesired, effects. In other words, the action desired from a dose of whiskey or brandy, or its equivalent, is a warming of the surface of the body, a fuller pulse, a moistening of the dry skin, and a quieting effect on the brain.

Now, with the well-known indications for alcohol present and some treatment needed, can we surmount the condition by any other treatment? The drugs or methods that act somewhat similarly to alcohol are aconite, coal-tar products, nitroglycerin, bromids, hypnotics, and cold. Each has its disadvantages. Aconite is a vasodilator, but should be used only in the beginning of acute disease, and then rarely, as cardiac depression may start early in acute conditions and may be hastened by aconite. Coal-tar drugs may be of temporary advantage, but certainly are positively contraindicated, on account of the cardiac depression they all cause, after the first day or two of the feverish process. Nitroglycerin with high arterial tension and a dry skin is often of advantage and may be often substituted for alcohol in acute fever. It has no quieting effect, however, and even in small doses often causes unpleasant momentary headache. However, this drug may be relied on more than any other to meet the indication for which alcohol would be used in acute sickness. There is no question that bromids, chloral, or the synthetic hypnotics are often needed and are often of great value in acute sickness, but if the illness is prolonged, the circulation weak, and the heart's action impaired, any depressant, as all of these hypnotics are, would be and is bad treatment. The value of cold applications in fever, when the temperature is high, in causing, by the coincident friction and the flushing of the skin, a bettering of the surface circulation, a quieting of the patient, and an improvement of the action of the heart is, of course, well understood and generally utilized to-day, and the gentler methods of cold applications are much better than the more severe. However, if the temperature is low, of course, cold applications are contraindicated.

In other words, the positive value and advantages of the proper use of alcohol as a drug in acute disease, when the condition indicates the necessity for physiologic action similar to its activity, cannot be gainsaid. Alcohol should certainly not be used because a patient is ill or has a fever, but very frequently nothing in the drug line will take the place of alcohol as a medicine. A dose larger than from one to three teaspoonfuls, once in three hours, is probably never indicated, and if given should certainly not soon be repeated.

As a food alcohol may save the burning of some tissue during acute fever when the nutriment is not sufficient, or is not metabolized sufficiently, to save fat and muscle. Hence in fevers it has a distinct food value, but probably no better than that which would be obtained from sugar.

In continued cardiac failure or depression, whether in patients suffering from chronic disease or in patients with acute disease, alcohol is contraindicated, strychnin being generally the best medicinal treatment. Consequently strychnin should not be begun early in acute disease, but be reserved until it is needed and becomes a life saver.

As a nutrient in chronic diseases alcohol is uneconomical and generally a positive disadvantage to the system.

As a vasodilator in chronic high arterial tension it should ordinarily not be used. This indication for treatment is present in arteriosclerosis and gout, and is a symptom and sign in late middle life or old age. If the condition requires treatment it is much better managed by nitroglycerin, thyroid extract, potassium iodid, or small doses of chloral. If arteriosclerosis is present and the patient is well along in life and is accustomed and has been accustomed to take alcohol regularly in doses that do not intoxicate, it may be unwise to stop the vasodilating effects of the alcohol until it has been ascertained that some other treatment will be as conducive to his well-being. In other words, the physiologic relief from high tension which he has been accustomed to acquire by taking alcohol cannot be abruptly stopped without due consideration of the consequences of withdrawing the drug.

Though alcohol in proper dose and in the proper form has an hypnotic effect not only by dilating the peripheral vessels and relieving the tension of the cerebral circulation, but also by its quieting effect on the nervous system, it should not frequently be considered or used as a hypnotic. Still, instances occur both in acute illness and in debilitated patients where it seems to be the safest and the most satisfactory of hypnotics Of course, when alcohol is used thus as a drug it should be stopped by the physician as soon as he considers that the patient can tolerate another hypnotic, or that the positive indication has ceased to exist. In very old people who cannot sleep, alcohol as a "night-cap" has been frequently advised. Sleeplessness in senility is frequently due to high tension circulation, and one can often cause these patients to sleep as well with small doses of nitroglycerin, administered at bedtime, as by alcohol so administered.

Alcohol has been largely used and frequently ordered, and the laity often resort to it to abort acute colds. There can be no discussion of the fact that the physiologic action of a good dose of alcohol combined with hot water, and the patient placed in a warm room, will cause perspiration and the re-establishment of surface circulation sufficiently to relieve internal congestions, and a cold with a localized congestion may thus be aborted. On the other hand, hot baths, combined with hot lemonade, or hot tea, or other hot non-alcoholic liquids, or a dose or two of a coal-tar sweat-producing drug, or a Dover's powder, and the quickly acting saline cathartics, will accomplish as much in aborting colds as will alcohol, and therefore it is rarely necessary to resort to alcohol in such a condition.

The local uses of alcohol are numerous and valuable, but need not be discussed, as they are well understood.

A Good Governor.—It's a good thing sometimes to have a man in the governor's chair who knows a little about the drug business. Governor Johnson of Minnesota promptly signed what is known there as "the nasty ad. bill" which forbids the publication of indecent advertising of the lost manhood variety. We never have been able to understand why a quack doctor could publish with impunity in his advertisements things that would cause him to be kicked off the front doorsteps if he said them instead. The newspapers that take that sort of stuff, though—and there are lots of them—always profess entire inability to see anything objectionable about it: which shows that they ought to consult an oculist. In Minnesota they won't need to see: the law is going to do a little seeing itself. And that reminds us. We have in Detroit a paper that has for its motto, "Every column clean." What is better, *Saturday Night*—that's its name—lives up to it. The publishers have had plenty of off-color advertising offered to them and they say, "We could have used the money, but we didn't want it that much." Governor Johnson, you remember, used to be a drug clerk. He hasn't forgotten some of the things he learned in those days.—*The New Idea.*

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[For other information see second page following reading matter]

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TUBERCULIN AND IODID OF POTASSIUM

Beginning with Koch's discovery of tuberculin and its use later as a diagnostic means, various attempts were made to obtain bacterial products which might be used as specific diagnostic measures. A noticeable result of these attempts was the discovery of mallein and its use in the diagnosis of glanders. More recently work has been carried out showing in several instances the diagnostic value of injections of certain dead bacteria in infections caused by those particular organisms. Of special importance in this connection seem to be the gonococcus reactions of Irons[1] and the ocular typhoid reaction first described by Chantemesse and modified by Hamburger.[2]

In 1897 Rondot demonstrated that weak doses of potassium iodid produced, in individuals with incipient tuberculosis, reactions which were similar to those produced by tuberculin and were supposed to be caused by the liberation of tuberculin from the lesions. Later its use as a diagnostic measure fell into disrepute because of the fact that such a procedure was not infrequently followed by a generalized tuberculous infection. In view of the somewhat similar characteristics of leprosy and tuberculosis the finding of Marchoux and Bourret,[3] that potassium iodid produces a similar reaction in lepers, is of interest. They conclude that the drug exercises on the lepra bacillus a destructive action which liberates a toxin acting in the manner of tuberculin in the tuberculous. Of further interest in this connection is the observation by Slatineano and Danielopol[4] that the subcutaneous injections in lepers of three milligrams of tuberculin produced a rise in temperature which in some cases amounted to as much as 3.7 C. Babes[5] later confirmed these observations, but because of the fact that the reaction appeared later and continued longer than in tuberculosis, and that sometimes it occurred only after several injections, he disagreed with the conclusions of these authors, who believed the reaction to be due to associated tuberculosis. The experiment seems to be open to criticism on the grounds that three milligrams of tuberculin make an excessive dose, and, furthermore, the possibility of inciting a hypersusceptibility to tuberculin itself by repeated injections would have to be considered.

Sorel[6] has recently investigated the cause of the reaction produced by potassium iodid in tuberculous subjects. He found that guinea-pigs which had been made tuberculous experimentally and had been given potassium iodid in doses considerably less than lethal amounts died of generalized miliary tuberculosis, and usually several weeks earlier than those which had received no iodid. He attributed this to the fact, shown in his experiments, that the large phagocytic cells (macrophages) were increased in number, thus facilitating the ingestion of the tubercle bacilli, but at the same time permitting their dissemination in greater numbers in the organism. Furthermore, he found that the actions of the iodid and tuberculin, although comparable, were not identical; for an intraperitoneal injection of potassium iodid in a tuberculous guinea-pig excited the formation of an exudate which contained no tuberculin. Whether his explanation of the fact that potassium iodid is dangerous to the tuberculous be correct or not, Sorel's results serve to emphasize the dangers of the indiscriminate drugging of tuberculous patients so commonly practiced.

1. Trans. Jour. Infect. Dis., 1908, v, 279.
2. Hamburger, W. W.: The Ocular Typhoid Reaction, THE JOURNAL A. M. A., 1908, l, 1344.
3. Marchoux and Bourret: Bull. Soc. path. exot., 1908, vi, 347.
4. Slatineano and Danielopol: Compt. rend. Soc. de biol., 1908, lxv, 528, 530.
5. Babes: Compt. rend. Soc. de biol., 1909, lxvi, 641.

THE RESISTANCE OF THE BODY TO SIMPLE POISONS

In striking contrast to the rapid extension of knowledge concerning the processes of defense of the animal body against the complicated bacterial toxins and the venoms, is the failure to explain satisfactorily the means by which tolerance to alkaloids and certain mineral poisons is acquired. Because these poisons are of known chemical composition, and infinitely more simple in structure than the toxins, it would seem that the problem should be correspondingly simple, but the reverse has so far been the case. Although a few early experimenters asserted that they secured an antitoxic serum by immunization of animals to morphin, their results have not been confirmed, and, supported by Morgenroth's negative results with this alkaloid, Ehrlich propounded the dictum that the body does not manufacture antibodies for substances of simple, known chemical composition. This position may become untenable, however, for from time to time reports appear which maintain that antitoxic serums of greater or less efficiency can be secured for this or that non-protein poison.

In this country Ford's[1] researches have been particularly striking, demonstrating that immunization to extracts of the poisonous mushroom, *Amanita phalloides*, causes the serum to become distinctly antitoxic for the hemolytic poison, which is a glucosid. The antitoxic power is, however, by no means comparable to that obtained by immunization with toxins, for one cubic centimeter of the immune serum neutralizes but five to eight times a fatal dose of the amanita extract. An

6. Sorel: Ann. de l'Inst. Pasteur, 1909, xxiii, 533.
1. Ford: Jour. Infect. Dis., 1907, iv, 541.

antiserum of about equal strength was also obtained for the poisonous glucosid of the poison ivy (*Rhus toxicodendron*). Somewhat similar but less striking results have been obtained by immunization to cantharidin, which is an aromatic ring compound of comparatively simple chemical structure, Champy[2] securing a serum which neutralized one milligram of the poison when given in 20 c.c. doses. Resistance to arsenic in increasing doses, however, does not seem to depend on any change in the serum, but rather on local changes, such as decreased absorption from the alimentary tract.

As the most common and most striking illustration of acquired resistance to a poison of simple chemical composition, the means by which tolerance to morphin is secured has been particularly investigated. About once in so often some one claims to have secured an anti-morphin serum, but even the slight activity claimed for these serums seems not to be satisfactorily proved on critical investigation. Perhaps the most distinct advance was made by Faust, who finds that dogs habituated to morphin have an increased power to destroy the poison. If morphin is injected subcutaneously into normal dogs, over three-fifths can be recovered in the feces, by which route it is chiefly eliminated; but, as toleration to morphin increases after repeated doses, the amount excreted in the feces decreases until in dogs made highly resistant there may be none excreted at all. As the organs of such habituated animals contain but traces of morphin it is apparent that the power to destroy morphin must have been greatly increased.

This work has been recently extended by W. Rübsamen,[3] who wished to learn if this destruction of morphin is rapid enough to account for the resistance of morphin habitués, who must otherwise receive in their central nervous system after subcutaneous injection of the enormous doses to which they are accustomed, many times the amount of morphin necessary to kill a normal person. Working with rats he found, as Faust had found with dogs, that the power to destroy morphin increases with habituation; this destruction is not rapid enough, however, to prevent the presence in the circulation during the first hour after injection of maximal doses into immune animals, of enough morphin seriously or fatally to poison a non-immune animal. Therefore, it would seem that the increased power of destruction of morphin is not alone sufficient to account for high degrees of resistance, and with this means of defense there must be a decreased susceptibility on the part of the cells.

2. Jour. de physiol. et de path. gén., 1907, ix, No. 5.
3. Arch. f exper. Pathol. u. Pharmakol., lix. 227.

VITAL STATISTICS FOR 1908

Some interesting facts are to be found in the Census Bureau Bulletin 104, compiled by Dr. Cressy L. Wilbur, Chief Statistician of the Bureau of Vital Statistics, and transmitted by Director of the Census E. D. Durand to Secretary Nagel of the Department of Commerce and Labor.

The conclusion reached in the report is that the civilized world has reached an era of low mortality. The death-rate in the registration area in 1908 was 15.3 per thousand of population. This rate, Dr. Wilbur states, is probably the lowest that has ever occurred in the United States. The death-rate in the rural portion of the registration states is even lower, being only 14 per thousand, while that of the urban population was 16.5 per thousand, the latter including all cities having a population of over 8,000 in 1900. Such a death-rate would have been considered impossible, or at least remarkable, in former years. Nor are present conditions limited to the United States. In the same year the death-rate for England and Wales was only 14.7 per thousand and of London 15.8. The death-rate of England and Wales has been under 16 per thousand since 1893, with the single exception of 1904, when it was 16.2.

The total number of deaths reported in the registration area for 1908 was 691,574, or only 4,540 more than the number of deaths reported for 1907, although the registration area for 1908 was increased by the addition of Washington and Wisconsin. The year 1908 must, therefore, be regarded as one of extremely low mortality throughout the United States, so far as can be determined from available data. It was marked by a general absence of severe epidemics, as well as of unusual mortality from other causes.

Comparison of deaths by sexes shows that females contributed a slightly larger proportion of deaths in 1908 than in 1907, the percentage being 45.7 of female mortality and 54.3 of male mortality. Classified according to age, the returns for 1908 show a slightly increased percentage of deaths of infants under one year, but the ratios for the individual years from 1 to 4 are the same as in 1907. A very close correspondence appears in the mortality rate of the five-year age periods from 5 to 50, while the showing for 1908 for the age periods from 15 to 49 is slightly more favorable than in 1907. Nearly one-fifth of all deaths for the year were in infants under one year of age, and over one-fourth of all deaths occurred in children under 5. One-fourth of all deaths registered were those of persons born outside of the United States. This, however, does not necessarily indicate a lower death-rate among native-born Americans, but is partly due to the fact that the states having the largest proportion of native-born Americans are those in which it is the most difficult to secure the passage of effective registration laws; in other words, it would seem that the larger the proportion of native-born American citizens the more difficult it is to pass and enforce a vital statistics law.

Comparison of the year's record by months shows that the highest death-rate occurred in January with 67,763 deaths, while the minimum death-rate occurred in June with 49,701 deaths. Comparison by states shows variation from 18.4 per thousand for California to 10.1 for South Dakota. With the exception of South Dakota, all the registration states show a lower death-rate for

1908 than for 1907, the death-rate for 1908 being in several cases the lowest on record for the state. In Massachusetts the rate for 1908 (16.5) is the lowest on record, except 1904, in which it was 16.3. In thirty-five cities of 100,000 inhabitants or over, the 1908 death-rate was lower than in previous years in all except five.

The registration states for 1908 were California, Colorado, Connecticut, Indiana, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, South Dakota, Vermont, Washington and Wisconsin, to which should be added the District of Columbia and seventy-four registration cities in non-registration states, making an aggregate registration area for 1908 having a total estimated population of 45,028,767, or 51.8 per cent. of the total estimated population of the continental United States, which is estimated at 86,874,990. The addition of Ohio for 1909 has increased the percentage of population embraced in the registration area to 55.2. It is no credit to the profession, to the people or to our lawmakers that 44.8 per cent. of the population of the United States is still in no way represented in the mortality reports of the Census Bureau and that only eighteen states have as yet been admitted to the registration area. Not a southern state is as yet represented nor is there a state, north or south, in which there are any adequate birth returns whatever. Such a lack of systematic and accurate methods for the collection and preservation of records on such important matter as births and deaths is no credit to the nation, and constant efforts should be exerted by the medical profession for the education of the public, and particularly of legislators, until the entire nation is included in the registration area.

THE ROCKEFELLER GIFT FOR THE EXTERMINATION OF THE HOOKWORM

One of the apparently insolvable problems of the South for generations past has been the "poor white." Historians have asserted that he was of the purest Anglo-Saxon blood—the same stock which rose to eminence in many a Southern and New England family of long lineage and high social standing. Yet his uselessness as a worker and his gradual, but apparently hopeless, degeneration have been generally admitted, though unexplained. In 1902 Dr. Charles W. Stiles, Chief of the Division of Zoology in the Hygienic Laboratory, announced that the poor white was not a wilful degenerate, but a helpless invalid, and that the cause of his condition was the *Uncinaria* or hookworm, an intestinal parasite, probably brought from Africa by slaves many generations ago. Estimates made by Dr. Stiles showing the wide-spread distribution of the disease and the enormous number of its victims (at least two million), while received with incredulity at first, have since been independently confirmed by other observers. This discovery is one of the greatest triumphs of medical laboratory work in this country, and is another illustration of the great value of laboratory researches in public health matters. If the Hygienic Laboratory in its entire existence had made no other contribution to medical knowledge, this work alone would more than justify its establishment.[1]

It would naturally be supposed that the conclusive evidence presented by Dr. Stiles, showing not only the cause but the remedy, at once would have resulted in vigorous efforts on the part of the government to eradicate this disease, the effects of which have played so important a part in the economic and social life of a large section of the country. Yet seven years have elapsed since both the cause and the remedy became known and no steps could be taken for the extermination of this parasite—fittingly named by Dr. Stiles *Necator americanus*—"the American murderer"—because there seems to be no law authorizing the expenditure of money by the national government for this purpose. How different would it have been had the lives and health of a few million horses, cattle or sheep been involved instead of merely a few million human beings! Nothing could better illustrate the need of a bureau of public health, authorized and equipped to carry out at least an aggressive campaign of education regarding the cause, prevalence and remedy of such diseases.

But where the state has failed the individual has come to the rescue. Mr. Rockefeller's magnificent gift of one million dollars to combat hookworm disease in the South is characteristic of the times and of the man. In previous generations and ages, benevolent and charitably inclined persons gave money for the establishment of hospitals, asylums and institutions for the treatment of the individual. The charity of the middle ages as well as that of the modern civilized world until recently consisted primarily in relieving the sufferer without regard to the conditions or causes underlying and responsible for his disease or misfortune. The plagues of the middle ages were accepted as visitations of God, as scourges inflicted by the Almighty on a sinful world. They were not to be avoided or prevented, and the charitably inclined could only hope to relieve a few of the victims. To-day the ravages of disease are recognized

1. An editorial in the *Times Dispatch*, Richmond, Va., is worth quoting in this connection:

"In all the annals of American science there has been no more striking tribute to the work of a single man than that paid by Mr. Rockefeller in his gift for the extermination of the hookworm disease. The oil king's donation was as much an honor to Dr. Charles Wardell Stiles as it was a credit to the giver. When Dr. Stiles began his study of hookworm, almost eight years ago, he had only a theory on which to work. He had no predecessors; he had few sympathizers. He had only the hypothesis that a disease which had appeared in Europe might also be found in America. At a time when his faith almost failed him he found the parasite, and observed and studied its dire effects. Enfeebled bodies, dwarfed minds, chronic debility and acute physical maladies proved the melancholy vindication of his theory. The ridicule which Dr. Stiles' discoveries received at the outset now seems itself ridiculous. The idea of a germ of laziness could not at first be assimilated by the public mind. The hookworm was soon a subject of popular jest, and its finder became the butt of many dull jokes. But public disbelief and contempt only spurred Stiles to repeat his experiments and to stand on his discoveries. If any lingering doubt remained as to the accuracy of his observations, that doubt is banished by the confidence of the board named by Mr. Rockefeller. When William H. Welch and Simon Flexner, America's greatest pathologists, lend their support to a campaign against the hookworm, popular support must follow. Their approval is the seal of scientific authority."

as due to the ignorance or carelessness of human beings, to be controlled, and if possible suppressed, by education and care. It is significant and characteristic that an American business man, successful above all others in organizing gigantic mercantile machinery of world-wide scope, should be dissatisfied with palliative methods of relief which deal with the accidental and symptomatic, rather than with the essential and causative factors. This gift is not the result of a sporadic or accidental impulse. It is in harmony with the modern spirit to regard the problem from the standpoint of society rather than that of the individual, and to seek to abolish disease as a factor in the social equation, rather than merely to relieve the accidental victim. The diversion of this vast sum from private means to public usefulness is also significant and gives promise of the development of a spirit of new philanthropy.

As far as the medical profession is concerned, there can be but one feeling regarding Mr. Rockefeller's gift, that of gratitude for his generosity mingled with admiration for the insight and sagacity of the business man who could so clearly see the necessity of striking at the root of the evil. That the money will be wisely and effectively used is guaranteed by the character of the men composing the commission, as well as by the positive demonstration of the curability of the disease. The establishment and endowment of the Commission on Hookworm Disease will do much to arouse interest in public health matters in this country, since it is well known that Mr. Rockefeller exercises the same discriminating care in benevolent and educational contributions that he does in his private business affairs. The fact that he considers the present situation so urgent as to justify the expenditure within five years of a million dollars should furnish food for serious reflection to those responsible for public health legislation. Great sanitary problems, involving the efficiency, health and lives of millions of people, are certainly proper subjects for consideration by the state, yet there is to-day no law authorizing the national government to do such work as Mr. Rockefeller has undertaken personally. The country is to be congratulated that it has private citizens who can undertake a work of such magnitude, yet it is not to our credit as a nation that such crusades against disease must be financed by individuals. It should not be necessary for the individual to do the work of the nation.

BRITISH NEWSPAPERS AND THE NOSTRUM BUSINESS

The British Medical Association has recently issued a small book entitled "Secret Remedies," which contains the results of analyses made by the association of the nostrums most widely advertised in the British press. In many respects it is similar to the booklet that THE JOURNAL has been getting out for some years past—the Propaganda for Reform in Proprietary Medicines. The British book differs from the Propaganda in that it deals exclusively with the so-called "patent medicines"—the "ethical" nostrums not being considered. To increase the British public's knowledge of the "patent medicine" evil, "Secret Remedies" is advertised and sold to the public. When the advertisement was offered to some of the large London dailies and weeklies they promptly refused it. As the book is not only of general interest, but of distinct educational value, the newspapers as "public educators" might reasonably have been expected not only to carry the paid advertisement of it, but also to have reviewed the work at length for the benefit of their readers. It is evident, however, that the same evil influence which the Proprietary Association of America wields over the American press is exerted by its British counterpart, the Proprietary Articles Trades Association, over the newspapers of the United Kingdom. The "patent medicine" men across the water, like their brethren on this side, have seen the handwriting on the wall and they may be expected to employ the same tactics to stem the tide of popular disapproval that have been used in this country. As to the attitude of the press we cannot do better than quote the closing words of our British contemporary: "Advertisement, bold and free and mendacious, is the motive power in the nostrum business, and the refusal of certain newspapers even to insert an advertisement of a book telling the public the truth about the best known of them is disquieting evidence of the kind of reception which any proposals for legislation to control a trade, which is really nothing short of fraudulent, is likely to meet from a large section of the press."

Medical News

ARKANSAS

Medical Society Incorporates.—The Pulaski County Medical Society was incorporated October 19 at Little Rock, on the petition of Drs. Edwin P. Bledsoe and Orange K. Judd.

Medical School Opens.—The Medical Department of the University of Arkansas, Little Rock, opened for its annual session September 30. Dr. Morgan Smith delivered the principal address.

Personal.—Dr. Caleb E. Witt, Little Rock, has been appointed medical director of the People's Health and Accident Insurance Company, vice Dr. Burley C. Bain, who remains as secretary of the board.——Dr. James C. Weld has been elected president of the Stuttgart Board of Health.

State Sanatorium.—By unanimous vote the State Sanatorium Board has chosen Booneville, Yell county, as the location for the proposed sanatorium. The offer of Booneville includes the gift of 1,000 acres of land, the construction of a macadam pike from the site three miles to the station in Booneville, the sinking of wells for water supply, and the construction of a bridge over the stream between the site and the city.

CALIFORNIA

Antituberculosis Organization.—Permanent organization was effected by the Alameda Antituberculosis Society, October 15, with the following physicians as officers: Dr. Weston O. Smith, Alameda, vice-president, and Dr. James K. Hamilton, Alameda, a trustee.

Sanatorium Not Destroyed.—The report that Burke's Sanatorium, near Santa Rosa, was completely destroyed by fire last month is incorrect, as only thirteen tents used by patients during the summer months and a cottage occupied by a member of the attending staff were destroyed. The main building was in no way damaged.

Hospital News.—The Board of Supervisors of Contra Costa county has set aside $25,000 for the construction of the new county hospital.——On November 6, the cornerstone of the new San Francisco County Hospital, which when completed

will have cost about $2,000,000, was laid with appropriate ceremonies.

Personal.—Dr. Julian J. Benton has been reappointed health officer of Berkeley.——Drs. Clark J. Burnham, Robert Hector, and George F. Reinhardt are the medical members of the newly appointed board of health of Berkeley, and Dr. Reinhardt has been elected president.——Dr. Julius C. Egeberg has been appointed assistant surgeon of the Central Emergency Hospital, San Francisco, vice Dr. Charles B. Pinkham, promoted.——Dr. Edouard S. Loizeaux, Patton, for several years a member of the staff of the Southern California State Hospital, has resigned to accept the position of city bacteriologist of Sacramento.——Dr. Lulu H. Peters, Los Angeles, has been placed in charge of the pathologic laboratory of the Los Angeles County Hospital.

GEORGIA

Personal.—Dr. William J. Blalock, Atlanta, has been elected president of the Fulton National Bank.——Dr. T. M. Greene has been elected medical director of the State Sanatorium, and Dr. W. J. Cranston, Augusta, has been elected a member of the staff.——Dr. Odom O. Fanning, Atlanta, has been elected superintendent of the Fulton county almshouse.——Dr. Mark H. Blandford has been appointed city physician of Columbus.——Dr. Charles Pelham Ward, Atlanta, sustained a serious injury of the eye October 8.——Dr. Joseph W. Duguid has been selected as city physician of Macon, vice Dr. Edward D. Hope.

Meetings of Physicians.—The members of the Ocmulgee Medical Association and the Eleventh Congressional District, held a joint session at McRae, October 19, organized the Eleventh District Medical Association, and elected the following officers: President, Dr. Jefferson D. Herrman, Eastman; vice-presidents, Drs. Micollins N. Stow, Jesup, and Wade H. Born, McRae; secretary-treasurer, Dr. William E. Miller, Eastman; and censors, Drs. James M. Smith, Valdosta, Benjamin M. Kennon, McRae, and George W. Blanton, Brunswick. The next meeting will be held June 3, 1910, at Brunswick.——At the annual meeting of the Ocmulgee County Medical Association, held in McRae, October 19, Dr. Nathaniel P. Jelks, Hawkinsville, was elected president; Dr. Benjamin M. Kennon, McRae, vice-president; and Dr. J. Cox Wall, Eastman, secretary-treasurer.

ILLINOIS

Examination for Chief of Staff.—Cook County Civil Service Commission began an examination October 28 to fill the position of chief of the medical staff at the Cook County Institutions, Dunning. Sixteen appeared to take the examination, of whom twelve were from Illinois.

Acquitted of Malpractice.—In the case brought by Mr. Garner, Effingham, against Dr. Charles F. Burkhardt, in which $5,000 damages was claimed for alleged malpractice in the treatment of an injured elbow-joint for the son of the plaintiff, the jury on October 28, returned a verdict exonerating the defendant.

Annual Meeting of Western Illinois Physicians.—The annual meeting of the Western Illinois District Medical Society was held in Quincy, October 29, under the presidency of Dr. John W. Adams, Carrollton. The following officers were elected: President, Dr. John H. Rice, Quincy; vice-presidents, Drs. Waldo Fisher, Alton, and John G. Franken, Chandlerville; secretary-treasurer, Dr. William P. Duncan, Jacksonville, and censors, Drs. Robert J. Christie, Quincy, Luther J. Harvey, Griggsville, and Levin H. A. Nickerson, Quincy. The next meeting will be held in October, 1910, at Alton.

Personal.—The trustees of Lincoln State School and Colony have provided for the establishment of a department of clinical psychology in the State Institution for the Feeble-Minded, to be under the care of Dr. Edmund B. Huey.——Dr. Edward Bowe has succeeded Dr. Frank P. Norbury as superintendent of Maplewood Sanatorium, Jacksonville, and Dr. Elmer L. Crouch, late first assistant physician at the Jacksonville State Hospital, has been appointed resident physician and superintendent of the sanatorium.——Dr. Albert Purcell, Streator, has been appointed division surgeon of the Chicago, Ottawa and Peoria Railroad.——Dr. John B. Shaw, Joliet, has sold his home and will locate in Montana.——Dr. Frank G. Crowell, Rochelle, is ill at the home of his brother in Pawpaw, with acute kidney disease.——Dr. Guy G. Dowdall, Clinton, has disposed of his practice and property to Dr. P. J. Gilbey, East St. Louis, and will move to Chicago.——Dr. Alsephus T. Robertson, Ashmore, who has been seriously ill, is reported to be improving.——Dr. George S. Edmonson, Clinton, has been appointed district surgeon of the Illinois Central, vice Dr. Guy G. Dowdall.

Chicago

Fortune Teller Fined.—Mrs. E. Harrison, a fortune-teller on Milwaukee avenue, charged by the State Board of Health with practicing medicine without a license, is said to have been found guilty and fined $100 and costs.

Visitors Discuss Brain Tumors.—The meeting of the Chicago Medical Society, October 27, was devoted to a symposium on tumors of the brain, their diagnosis, and the operative measures for their removal. Drs. William G. Spiller, of the University of Pennsylvania, Philadelphia, and Harvey Cushing, Johns Hopkins University, Baltimore, were the guests of the evening and led the symposium.

Money for Charities.—The concert for the benefit of the German Hospital of Chicago, given October 24, enriched that charity to the extent of more than $9,000.——The net receipts of Tag Day, October 16, were $40,167, which are to be divided among sixteen charities.——The Jewish Consumptive Relief Society realized more than $4,000 from its annual ball held at the First Regiment Armory, October 31.

Fined for Malpractice.—Edward R. Hibbard, Oak Park, formerly president of various medical institutes, who had previously been convicted of having used the mails to defraud, and sentenced to two years in the house of correction, and in whose case the United States Circuit Court of Appeals refused an order for a new trial, was taken before Judge Landis, October 26, and told that if he would plead guilty a fine would be imposed. He pleaded guilty, was fined $1,500, and paid the fine.

Contagious Disease Situation.—The chief of quarantine and disinfection of the department of health comments in the current issue of the *Bulletin* on the contagious disease situation. In less than two months the total number of cases of diphtheria and scarlet fever has trebled. The causes responsible for this are badly ventilated houses and association of the sick with the well. To check the further advance of these diseases, the department gives the following advice:

1. Keep your windows open all the year around; don't be afraid of fresh air and sunshine; you have no better friends and the germs have no worse enemies.
2. Allow no dust, dampness or dirt in your house.
3. If your child shows any suspicious signs of illness keep it out of school and send for the doctor immediately. Delay is dangerous.
4. If it proves to be a case of contagious disease you must strictly isolate it, for in this instance there is danger in numbers.
5. Don't attempt to conceal contagious disease. In doing so you are cheating yourself of the help and protection that the community offers you and such actions may result in nothing short of murder.
6. If you are not able to properly care for the patient at home send him to the hospital, where the best treatment and care is given and no charge made.

INDIANA

District Society Meeting.—At the fourth annual meeting of the Eleventh District Medical Society, held in Huntington, October 21, Dr. William A. Fankboner, Marion, was elected president, and Dr. James L. Gilbert, Logansport, secretary-treasurer. The next meeting of the association will be held in Delphi.

Personal.—Dr. George W. Kirby, Millersburg, expects to sail for Europe November 17.——Dr. Robert Griffis, Middletown, was stricken with paralysis, October 13.——Dr. Laughlin O'Neal, Somerset, fell recently and sustained serious injuries of the head.——Dr. John I. Metts, Ossian, had a cerebral hemorrhage September 27, and is in a critical condition.——Dr. John D. Nichols, Indianapolis, has been elected supreme medical examiner of the Knights and Ladies of Honor.

August Mortality.—During August there were 3,164 deaths reported, equivalent to an annual mortality of 13.6 per 1,000. Of these, 575, or 19.2 per cent. of the total, were under 1 year of age, and 838, or 28 per cent. of the total, were 65 years old or over. The central section of the state shows the highest death rate for the month, and also shows the highest rate from smallpox, pneumonia, cancer, and violence; the southern section of the state shows the highest death rate from typhoid fever, diphtheria, and whooping cough.

KENTUCKY

Personal.—Dr. John Edwin Hayes, Louisville, is recovering from an operation for appendicitis, performed at St. Joseph's Infirmary, October 3.——Dr. Roland H. C. Rhea, Morganfield, announces his retirement from practice October 1.——Dr. John A. Lewis, Georgetown, who has been confined to the house for several weeks on account of a fall, is convalescent.

Antituberculosis Society Organized.—The Kentucky Association for the Prevention and Relief of Tuberculosis was organized at Lexington, September 28, and the following officers were elected: President, C. L. Adler, Lexington; vice-presidents, Mrs. Desha Breckenridge, Lexington; D. H. Kellar,

Frankfort; Mrs. Charles Dallam, Henderson; E. T. Frank, Owensboro; and Mrs. Benjamin L. Banks, Richmond; directors, Bernard Flexner, Louisville; Dr. George P. Sprague, Lexington; James A. Scott, Frankfort; Miss Harriet Anderson, Louisville; Mrs. Lafon Riker, Harrodsburg; Dr. Dunning S. Wilson, Louisville; Dr. William R. Thompson, Mount Sterling; Dr. Jacob Glahn, Owensboro; and Thomas Johnson, Lexington.

LOUISIANA

Quarantine Site Acquired.—The United States Government has accepted the proposition of the State Board of Health and the governor for transfer of the quarantine property, embracing about 1,500 acres of land with improvements, to the federal government, for a consideration of $100,000. An annex and hospital quarters will be built at the quarantine station and better facilities will also be provided for the inspectors.

State **Board Matters.**—At the special session of the State Board of Health, October 14, it was decided to recall Dr. Joseph A. Estopinal from Havana and to assign him as assistant to Dr. Sidney G. Porter, state medical inspector.——Dr. Porter announces that he will inaugurate a campaign for the eradication of spitting in places of amusement, in railway stations, on floors, platforms or any other place around railway stations, street cars, public buildings, stores, sidewalks or street crossings.——The chairman of the finance committee reported a balance on hand of more than $10,000.——On motion of Dr. Leadbetter, $600 a year was appropriated for a monthly bulletin or journal to be under the auspices of the board, and to be sent to every physician and health officer in the state.——The board endorsed the resolutions of the Orleans Parish Medical Association, eliminating the word "allopath" and substituting therefor "regular physician."——The board passed strong resolutions denouncing as false and acrimonious certain statements made by Dr. Aristides Agramonte, Havana, relating to yellow fever and sanitary conditions in the State of Louisiana and City of New Orleans.

MARYLAND

Pure **Food Argument.**—Dr. Nathan R. Garter addressed the Confederated Civic Improvement and Protective associations of Baltimore county at Catonsville, October 18, and advocated a stronger pure food law. The main defects in the Maryland laws are that they are not definite and the appropriation for their execution has never been increased since their original passage. Consequently Maryland has become the dumping-ground for inferior and unwholesome foodstuffs.

The **Tuberculosis Conflict.**—At the annual meeting, October 22, of the Social Service League of Montgomery county, organized about a year ago to combat tuberculosis and to provide care and treatment for the poor of the county afflicted with the disease, Dr. William L. Lewis, Kensington, was elected president, and Drs. Horace B. Haddox, Gaithersburg, William T. Pratt, Rockville, and George M. Boyer, New Windsor, were elected directors.

Baltimore

University **Medical Association.**—At the annual meeting of the University of Maryland Medical Association, October 19, Dr. John T. O'Mara was elected president; Dr. Charles W. McElfresh, vice-president, and Dr. Salvatore DeMarco, secretary.

Gets **Head Nurse from Baltimore.**—Miss Nancy P. Ellicott, who has done noteworthy work in connection with the medical research department of Johns Hopkins University, has been appointed superintendent of the new Rockefeller Hospital now in course of construction in connection with the Rockefeller Institution for Medical Research, New York City.

Plea **for Hospital.**—Dr. William H. Welch made a strong plea before the board of estimates for the appropriation asked for by Health Commissioner Bosley for the Sydenham Hospital for Contagious Diseases. He asked for $30,000 to be used in the construction of another hospital ward building, also an amount sufficient for a wing for the administration building, and $3,000 to build a road to the hospital. He believes that there should be coordination between the Tuberculosis Hospital, Sydenham Hospital, and the City Hospital, and that a single heating and lighting plant should be sufficient for the three. He attributes the diminution of diphtheria in the city and the recent stamping out of an outbreak of the disease at Kelso Children's Home to the effectiveness of Sydenham Hospital.

MICHIGAN

Change in Medical Course.—In the opening of the medical course of the University of Michigan, a change is made from a four to a six-years course in this department. Heretofore the six-years course has been optional, but from this time on it is made obligatory.

Gift to Sanitarium.—The bequest left to Battle Creek Sanitarium by Charles E. Wood, a former patient, consists of stocks, bonds and real estate, which are expected to realize more than $500,000. This will be expended, in part at least, in the founding of a memorial sanitarium at Atlantic City, N. J.

MINNESOTA

Aid for Cripples.—The University of Minnesota Dispensary has established a department of orthopedic surgery, which was opened September 27. An obstetric department is also to be maintained by the dispensary.

Fight Tuberculosis.—Mayor Lawler of St. Paul has pledged the members of the council to place on the budget for next year any reasonable amount asked for by the antituberculosis committee for its hospital. He also announces his willingness to vote for an appropriation of $50,000 next year for a hospital.——The Antituberculosis Hospital near Bass Lake, which will accommodate twenty patients, is now almost completed.——The capacity of the State Sanatorium for Consumptives, Walker, will be more than doubled before the end of the year by the completion of six cottages, erected at a cost of $10,000. Two of the cottages will have accommodation for sixteen, and the other four for eight patients each.——The commissioners of Ramsey county have passed the 1910 budget, which includes an additional appropriation of $50,000 to the hospital fund for the care of tuberculosis patients.

MISSOURI

Personal.—Dr. Edwin H. Schorer, assistant professor of parasitology and hygiene in the University of Missouri, Columbia, has resigned to accept the appointment of professor of bacteriology and pathology in the University of Kansas, Lawrence.——Dr. W. A. Nixon, Kansas City, has returned after a stay of more than a year in North Labrador, where he has been investigating the health conditions of the Eskimos.

Dispensaries Opened.—A free tuberculosis dispensary was opened in the Associated Charities Building, Kansas City, September 22. In addition to instructions and advice in the proper methods of care for themselves, Dr. Charles B. Irwin of the health department has provided each patient with cuspidor, pocket flask, and porch cup.——The new tuberculosis pavilion on the grounds of the old Kansas City General Hospital, was presented to the city October 16, by the Jackson County Society for the Relief and Prevention of Tuberculosis. The pavilion was built at the personal expense of William Volker, and will accommodate fifteen patients. Dr. John G. Hayden is physician-in-charge.——The Kansas City Postgraduate Medical College has established a free clinic for nervous diseases every Tuesday, Thursday and Saturday morning.

St. Louis

To Aid Baptist Sanitarium.—Mr. A. D. Brown has given $100,000 to the building fund for the Missouri Baptist's Sanitarium, contingent on the raising of $50,000 additional.

Staff Election.—The consulting staff of St. Louis Maternity Hospital, at its annual meeting, October 8, elected Dr. Frank Hinchey, president; Dr. William H. Stauffer, vice-president; and Dr. Davis Forster, secretary.

NEW JERSEY

Personal.—Dr. and Mrs. Edmund L. B. Godfrey, Camden, will spend the winter in southern California.——Dr. Charles M. Gray has resigned as a member of the Vineland Borough Board of Health.——Drs. John W. Reid, Eugene H. Goldberg, Alfred A. Muller, Walter R. Reick, Morris W. Clouse and Widner A. Doremus have been appointed medical inspectors of schools of Kearny.——Dr. Meyer J. Jedel, Newark, has been appointed physician for the tenth district, vice Dr. William P. Lamb, Newark, resigned.

New Jersey Joins Tuberculosis Crusade.—At a meeting, October 21, in the Taylor Opera-House, presided over by Governor Fort, New Jersey began a crusade to fix the responsibility for the spread of tuberculosis in her borders and to find a correct method for stamping it out in the commonwealth. Dr. William H. Welch, Philadelphia, spoke on the general subject of tuberculosis, and Dr. Henry B. Favill, Chicago, discussed the question, "On What Ground May the States Assume the Direction of Public Health." Homer Folks, secretary of the New York State Charities Aid Association, spoke on the "Value of Hospitals," and the other speakers

were Dr. Richard Cabot, of Boston; Dr. William A. Evans, of Chicago; Senator Thomas Frelinghuysen, of New Jersey; and Senator Ernest Ackerman, of Union county. Last winter the legislature appropriated $1,500 for lectures and public meetings by experts in the treatment of this dread disease.——The Soho section of Belleville has been selected as the site for the proposed Essex County Tuberculosis Sanatorium.

NEW YORK

Personal.—Dr. Matthew R. Carson, Canandaigua, was honored by his fellow-members of the Ontario County Medical Society, October 12, at the annual meeting in celebration of the completion of his half-century of membership. Dr. Albert Vanderveer, Albany, was the guest of honor, and gave an address on the history of surgery.——Dr. Robert King, Ogdensburg, has been appointed junior assistant physician of the St. Lawrence State Hospital.

Will Help in Tuberculosis Fight.—Benjamin B. Odell, Jr., has filed a certificate of incorporation of the Newburgh Tuberculosis Sanatorium and Camp, which he intends to establish at a personal expense of $75,000, for the cure and systematic treatment of tuberculosis. This application will probably be granted without the customary hearing, as the State Board of Charities recognized the great usefulness of such an institution.——At a meeting, held October 12, in Dundee, an auxiliary organization of the State Charities Aid Association was organized, having for its objects adequate hospital care for advanced cases of tuberculosis; laboratory facilities in the county for the examination of tuberculous sputum; the after-care of recorded or arrested cases; enforcement of the law requiring the report of cases of tuberculosis to the health officer; the relief of families of patients taking treatment; and the adoption of local sanitary regulations regarding incipient cases of tuberculosis.

New York City

The Herter Lectures.—The Herter Lectures at the University and Bellevue Hospital Medical College will be given this year by Prof. Dr. Otto Cohnheim of the University of Heidelberg on "Enzymes and Their Action." The lectures begin December 6 at 4 p. m. and continue daily throughout the week. Those interested are cordially invited to attend.

To Check Tuberculosis.—The board of estimates and apportionment has been requested by the representatives of various charitable, medical and civic organizations to urge an increase of $487,250 in the budget of the city, for the prevention and cure of tuberculosis, distributed as follows: Health, $372,660; education, $22,140; Bellevue and allied hospitals, $17,460; and charities, $75,000. The board has agreed to include an appropriation of $110,600 in the budget for 1910.

Mask for Street Sweepers.—A new sanitary mask to cover the lower part of the face with a gauze-like cover for the mouth and nostrils has been adopted by the department of street cleaning for the sweepers. It is exceedingly light and does not annoy the man who wears it, while it effectually prevents the breathing of germ-laden dust. The sweepers have always been more subject to infectious diseases than any other class of men in the department, the efficiency of the force being lessened by the number of days off that they are forced to take owing to illness, contracted undoubtedly in the course of their work. Consequently the matter is one of departmental economy as well as of plain humanity.

Graduate Course.—Columbia University, College of Physicians and Surgeons, announces a graduate course, consisting of thirty laboratory demonstrations in the departments of physiology, pharmacology and bacteriology. The demonstrations will be held on Tuesdays, Thursdays and Saturdays from 3 to 5 p. m., during the months of November and December, and the first part of January. The course is intended to offer to physicians an opportunity to see demonstrated the more important and practical of the experiments of modern medical research, and thus to come into critical touch with the newer laboratory methods as applied at the bedside in both medicine and surgery. Further information may be obtained from Mr. E. K. Hayt, assistant registrar, 437 West Fifty-ninth street.

The Right of Autopsy in New York.—The question as to the circumstances under which a physician may properly perform an autopsy in New York has just arisen in a suit brought against two members of the staff of St. Joseph's Hospital, Far Rockaway, by the children of a deceased patient, who was treated by the defendants in that institution. The plaintiffs alleged that the autopsy was performed without their previous knowledge or consent. The law in this state declares that the right to dissect the dead body of a human being exists only in four classes of cases: (1) Those prescribed by special statutes; (2) whenever a coroner is authorized by law to hold an inquest on the body, so far as such coroner authorizes dissection for the purpose of the inquest and no further; (3) whenever and so far as the husband, wife or next of kin of the deceased, being charged by law with the duty of burial, may authorize dissection for the purpose of ascertaining the cause of death and no further; and (4) whenever any district attorney in the discharge of his official duties shall deem the exhumation and dissection of a dead body necessary in order to ascertain the cause of death. Any person who makes or causes or procures to be made any dissection of the body of a human being except by authority of the law or a permission given by the deceased, is deemed guilty of a misdemeanor. The case above referred to is the first in New York in which the right to maintain a civil action to recover damages for an illegal autopsy was distinctly and expressly asserted.

NORTH CAROLINA

Personal.—Dr. Minor R. Adams, Statesville, has been elected president of the Iredell County Antituberculosis Society.——Dr. Albert Houck, Statesville, has been elected third assistant, and Dr. Fonso B. Watkins, Concord, fourth assistant physician of the State Hospital for the Insane, Morganton, the latter position being vacated by the resignation of Dr. Edward M. Gayle, who has moved to Richmond, Va.

Additional Accommodation in State Hospital.—The State Hospital Commission in session at the capitol last week, perfected arangements for the reception of additional patients in the new addition to the State Hospital for the Insane and also in the colony building for epileptics. About 600 patients will be added to the capacity of the institution. The commission meets in November at Goldsboro to consider the urgent necessity for additional accommodation for 200 at the colored insane hospital in that place.

Physician May Not Prescribe Liquor for Himself.—The judge in an inferior court in Greensboro, recently decided in the case of Dr. J. C. Waddy, a reputable colored physician, that a physician cannot legally prescribe liquor for himself, even if ill. Dr. Waddy was convicted of violating the state prohibition law. The case was appealed, and the adjudication of the higher court is watched for with much interest by the profession generally. Two other physicians were tried for alleged violation of the state prohibition law, in which one was charged with prescribing for patients "not actually professionally under their treatment." In each case the physician was acquitted.

OHIO

To Prevent Medicine Sampling.—A drastic ordinance has been drafted by the city council of Dayton, prohibiting the indiscriminate distribution of samples of medicine in the city.

Illness and Injury.—Dr. Thomas M. Moore, Willoughby, is reported to be ill in a Cleveland hospital with appendicitis.——Dr. Joseph H. Huntley, Lima, was seriously injured in a collision between his automobile and a freight train near Lima.

Damaged by Fire.—The Alliance City Hospital was badly damaged by fire October 17. The nineteen patients in the hospital were rescued with difficulty.——A fire in the dissecting room of the Western Reserve Medical College, Cleveland, October 17, was caused by the explosion of chemicals.

District Society Meeting.—At the annual meeting of the Tenth District Medical Association, held in Delaware, October 7, the following officers were elected: Dr. George W. Morehouse, Delaware, president; Drs. William H. Christopher, London, George S. Stein, Columbus, John W. Birk, Bucyrus, and Frank C. Larimore, Mount Vernon, vice-presidents; and Dr. Fred Fletcher, Columbus, secretary-treasurer. The next meeting is to be held in Columbus.

Illegal Practitioners.—B. S. Slocum, a so-called "Hindoo Doctor" of Columbus, is said to have been sentenced on October 13, to imprisonment for sixty days in the workhouse and to pay a fine of $25 and costs, on the charge of the illegal practice of medicine.——In the case of E. E. Ellsworth, North Baltimore, said to have been recently convicted of the illegal practice of medicine, appeal motions were heard, the motion for a new trial was overruled, and the defendant was fined $50 and costs.——The State Board of Medical Examination and Registration, on October 5, is said to have revoked the license of Dr. James N. Nelson, Alliance, for the alleged sale of cocain, and that of Dr. James M. Lubergh, Miamisburg, for the performance of an illegal operation.

State Sanatorium Opens.—The new State Sanatorium for Tuberculosis near Mount Vernon, was formally opened, Octo-

ber 27, when the keys were turned over to the trustees by the governor. The principal address was delivered by Dr. William C. White, medical director of the Anti-Tuberculosis League of Pittsburg, Pa., on "Centralization in Tuberculosis Work." Patients were received beginning November 1. The institution has at present accommodation for fifty patients, and this will be increased as construction work under way and planned progresses. Patients who are able will be required to pay about $5 a week, and those who are able to work will be allowed to support themselves. Dr. Clayton B. Conwell, Cincinnati, is superintendent of the institution.——A Tri-County Tuberculosis Hospital is to be built by the commissioners of Lorain, Erie and Huron counties.

Physician in Every School.—A bill has been prepared and approved by the state board, to be presented to the next session of the legislature, which has for its ultimate purpose the stationing of a physician in every school who will be as much a part of the makeup of the school system as is the principal and teachers. The law contemplates the examination of each child in the public schools by the teacher for sight, hearing and breathing. It further provides that the board of education of each city shall, and of each village and township may, appoint one or more physicians, to whom shall be referred every pupil returning to school after having been absent because of sickness, and every child who shows signs of ill-health or appears to be suffering from a communicable disease. The school physician shall also give lectures and instructions to teachers on hygiene and the recognition of communicable diseases.

Cincinnati

New Cottage at Fresh Air Farm.—The Fresh Air Fund has received $2,000 from Miss Mary Hanna, with which to build a cottage for convalescents at the Fresh Air Farm, Terrace Park.

Attempt to Coordinate Antituberculosis Associations.—The following physicians have been appointed to attempt to correlate and coordinate the different institutions and associations that are waging a fight against tuberculosis in the city: Drs. George A. Fackler, Otto P. Geier, Aka B. Isham, David I. Wolfstein and William E. Kiely.

Alumni Meet.—The local chapter of the Alumni Association of Miami Medical College met October 1, and elected the following officers: President, Dr. Franklin H. Lamb; vice-presidents, Drs. Arthur L. Knight, William C. Harris, William C. Schmidter, and Raymond E. Gaston; secretary, Dr. William C. Herman; and treasurer, Dr. Browerman. Dr. B. Merrill Ricketts read a paper on the "Sterilization of Criminals."

PENNSYLVANIA

Board of Health Resigns.—At the meeting of the Board of Health of Lewistown, October 26, the members of the board resigned. This action was taken, it is said, because councils ignored the recommendations of the board looking to the health of the public.

Post-Graduate Club Election.—The Post-Graduate Medical Club of Franklin at its annual meeting, October 14, elected Dr. John B. Glenn, president; Dr. John R. Borland, vice-president; Dr. Charles H. Brown, secretary; Dr. Thomas A. Irwin, assistant secretary, and Dr. Louis E. McBride, treasurer.

Personal.—Dr. Charles E. Ziegler has been appointed professor of obstetrics in the University of Pittsburg.——S. P. Light, Lebanon, has been appointed by the governor trustee of the State Asylum for the Chronic Insane, Wernersville, vice J. B. Kremer, resigned.——Dr. F. R. McGrew, Carnegie, was seriously injured in a collision between his automobile and a Pennsylvania train, October 28.

Philadelphia

Transactions Free.—An announcement has been made that physicians can obtain copies of the bound proceedings of the Philadelphia County Medical Society, without cost, by applying at once to the janitor of the College of Physicians at the old building, Locust and Thirteenth streets.

Memorial to Dr. Huger.—On November 4, Dr. John Doran presented a bronze medallion to the Medical School of the University of Pennsylvania to commemorate the attempt of Dr. Francis Kinloch Huger to rescue Marquis de Lafayette from the fortress of Almretz. Dr. Huger graduated from the university in 1797.

College of Physicians.—Many eminent men have accepted invitations to the dedicatory exercises of the new building of the College of Physicians to be held November 10. The committee of arrangements is composed of Drs. Charles H. Frazier, George E. de Schweinitz, James Tyson, Thomas M. Tyson and George W. Norris. Mr. Andrew Carnegie, who contributed $100,000 toward the erection of the new building, will be the guest of the college. Many national and local societies have chosen delegates to represent them at the dedication.

Free Medical Libraries.—At the business meeting on October 20, of the Philadelphia County Medical Society, a special committee was named to investigate the practicability of the county society placing in certain branches of the Free Library of Philadelphia periodicals and medical books for the use of physicians in general. The committee consists of Dr. James M. Anders, chairman, and Drs. Henry Leffmann, Abram B. Hirsh, Albert M. Eaton, Herman B. Allyn, Edward E. Montgomery, and Frances R. Packard, and is expected to report to the society in January.

Building for Doctors.—Plans are being prepared for the construction of a twelve-story physicians' office building, to be located in the center of the city. The building is to be operated on the cooperative plan. The suites of offices will have from two to six rooms. The estimated cost of construction is $500,000. The plans provide for a brick, stone and terracotta building of hospital construction, thoroughly fireproof, with a frontage of 100 feet and a depth of 130 feet. Two hundred offices will be arranged for the exclusive use of physicians, dentists and the allied professions. The upper floor will contain a large auditorium for society meetings and entertainments, and the ground floor will be occupied by a drugstore and other stores.

Care of Babies.—A crusade to teach poor mothers how to feed their infants has been launched by the Philadelphia Alliance for the Care of Babies, which will hold free lectures and clinics in the public schools next winter. The alliance, which is under the auspices of the Department of Health and Charity, the public schools, the Mothers' Congress and the League of Home and School Associations, has been divided into ward committees, and besides holding public meetings will carry its work into the homes. Members will be furnished with the birth records of their districts, and will call on mothers and give them personal instruction in the care of their children. The evils of bottle feeding will be explained and attention will be called to the enormous percentage of deaths among artificially-fed children. The alliance has procured the cooperation of physicians of the city who will give talks on child hygiene in the schoolhouses.

GENERAL NEWS AND COMMENT

Decrease in Tuberculosis.—Cressy L. Wilbur, chief statistician of the division of vital statistics of the United States Census Bureau, in a bulletin issued October 21, reports a decrease in the deaths from tuberculosis for 1908. The rate in 1907 was 183.6 per 100,000 population and in 1908, 173.9 per 100,000.

New England Jefferson Graduates Organize.—Graduates of Jefferson Medical College living in New England met September 29 at Springfield and organized the Springfield Branch of the New England Association of Jefferson Graduates and elected Dr. Albert R. Rice, president; Dr. Robert P. M. Ames, secretary; Dr. William G. Craig, financial secretary, and Dr. Payson J. Flagg, treasurer.

Work for Public Health.—The American Public Health Association, at its thirty-seventh annual meeting held in Richmond, Va., October 19-22, elected the following officers: President, Dr. Charles O. Probst, Columbus, Ohio; vice-presidents, Drs. Charles A. Hodgetts, Toronto, Ont., Ernest C. Levy, Richmond, Va., and Frederico Torralbas, Havana, Cuba; secretary, Dr. William C. Woodward, Washington, D. C.; treasurer, Dr. Frank W. Wright, New Haven, Conn.; and executive committee, Drs. Eugene Buehler, Indianapolis, Marshall L. Price and Cressy L. Wilbur, Washington, D. C. It was decided to hold the next annual meeting in Milwaukee.

Boston to Have International Laryngology Congress.—The permanent international committee representing the laryngologists and rhinologists of the world has decided to organize the third international congress for laryngology and rhinology to convene during the same week and at the same place as the international congress for otology, either a few days before or after the latter. These congresses are to be held during the intervals between the international medical congresses; the designation of time and place is left to the otologists. Boston has been selected for the next gathering. Only one subject will be appointed for discussion at each sitting, with addresses on it by two speakers.

Meeting of Southern Physicians.—The annual meeting of the Southern Medical Association, whose territory includes

the states of Tennessee, Alabama, Georgia, Florida, Louisiana and Mississippi, will be held in New Orleans November 9-11, under the presidency of Dr. Giles C. Savage, Nashville, Tenn. The work of the association is divided into sections on medicine, surgery and ophthalmology, presided over, respectively, by Drs. John A. Witherspoon, Nashville, Tenn.; Francis G. DuBose, Selma, Ala., and Alexander W. Stirling, Atlanta, Ga. Dr. Edward M. Hummell, New Orleans, is chairman of the entertainment committee. The general meetings will be held in Hutchinson Memorial Hall, where the president's address and the annual oration by Dr. Isadore Dyer, dean of Tulane University Medical Department, will be delivered. The headquarters of the association will be Hotel Grunewald. Membership in a component medical society or association in any of the states mentioned and South Carolina or Kentucky, entitles to full membership in the association, on payment of the annual dues of $2.

Railway Surgeons Meet.—The third annual convention of the Association of Surgeons of the Chicago, Burlington and Quincy Railroad was held in Kansas City, Mo., October 14. The following officers were elected: President, Dr. Byron B. Davis, Omaha; vice-presidents, Drs. Charles E. Cook, Mendota, Ill., John M. Allen, Liberty, Mo., and John W. Freeman, Lead, S. D.; secretary, Dr. George F. Roehrig, Denver, and treasurer, Dr. John P. Savage, Sioux City, Iowa. The next year's meeting will be held in St. Paul.——At the eighteenth annual meeting of the Erie Railroad Surgeons' Association, held in New York City, October 7, Dr. Charles E. Sawyer, Marion, Ohio, was elected president.——The New York and New England Association of Railway Surgeons will hold its nineteenth annual meeting at the New York Academy of Medicine, 17 West Forty-third street, November 16 and 17, under the presidency of Dr. Jonathan M. Wainwright, Scranton, Pa. The symposium will be on "Causes of Railway Accidents Individualized," taking up construction, maintenance, operation, medicolegal features, injuries of the head and spine, and medical and surgical end-results and accidents. On the afternoon of the second day, a clinic is to be given the association at the Presbyterian Hospital by Dr. Joseph A. Blake.

FOREIGN

Acute Poliomyelitis in Germany.—This epidemic, which has been referred to by our Berlin correspondent in this and previous issues, is the first actual epidemic of the kind in Germany. It affects the northwestern province of Prussia, bordering on the Netherlands. Steiermark is also involved, a number of cases having occurred at Graz. A total of 450 cases, with 70 deaths, were reported up to the middle of October. G. Vieten of Hagen, the center of the epidemic, in Westphalia, describes the symptomatology, course, treatment and prophylaxis of the disease in the *Zeitschrift für aerztliche Fortbildung*, October 15, page 633, urging the necessity for compulsory notification of cases of the disease. This will permit isolation and disinfection, and by study of the cases in the hospitals it may be possible to discover the causal agent and means for effectual treatment. He also urges the necessity for legal regulations compelling the parents to permit autopsy in the fatal cases as the only means to obtain better insight into the processes of the disease.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Oct. 23, 1909.

Relation of Scarlet Fever to Disease of Cows' Udder

The health committee of the London County Council has concluded an important inquiry into the causation of an outbreak of scarlet fever. The epidemic occurred last June and affected 400 persons in London and Surrey who had consumed milk supplied by a particular dairy company. The fact that scarlet fever may be milk-borne is now well recognized, and to account for this two hypotheses have been put forward—either that the milk is infected by persons who have recently suffered from scarlet fever coming in contact with it, or it is infected by some condition of the cows. In several outbreaks infection from the former source was excluded, thus supporting the latter hypothesis. In 1882 the eminent hygienist, Sir William Power, investigated an outbreak which occurred in London, and suggested that as in the human female there is a connection between scarlatina and accidents of the puerperium, a similar connection might exist between the disease and some condition in cows which had recently calved. In 1895 he advanced his hypothesis a step farther when investigating the origin of an outbreak of scarlet fever in persons who had consumed milk from a farm at Hendon (a London suburb). The cows on this farm were found to be suffering from an eruption on the teats and udders, which has since been known as the "Hendon disease." Subsequently several outbreaks of scarlet fever have been traced to recently calved cows suffering from the "Hendon disease." In the present outbreak a minute investigation showed that the milk began to show infectious properties at the time that three recently calved cows were added to the herd. The calf of one of these cows died after being suckled for four or five days, and an eruption suggestive of the "Hendon disease" was present on the teats and udders of the cows.

Establishment of a Radium Factory in London

Lady Ramsay, the wife of the great scientist, Sir William Ramsay, has performed the ceremony of laying the foundation stone of a radium and uranium works of the British Radium Corporation which is to be built at Limehouse to treat pitchblende ore extracted from a Cornish mine. Sir William Ramsay delivered an interesting address, in which he traced the history of radium from the experiments of Becquerel and the Curies. A great difficulty to the therapeutic use of radium is its cost, which has increased since its discovery. At first it could be bought for $1.50 per milligram, now the price is $3.50. Sir William has discovered a process by which the time taken to extract radium from its ore will be considerably shortened—from some months to as many weeks. It is hoped that this will increase the present infinitesimal supply and bring radium within the reach of many physicians who would be glad to try it.

Education of the Medical Student

As has been stated in previous letters, the continual progress of medicine and its ancillary sciences is making greater and greater demands on the medical student, and the problem of his satisfactory education is becoming more and more difficult. In his presidential address delivered to the Medical Society of London, on "The Relation of Medicine to the Ancillary Sciences," Dr. Samuel West, physician to and lecturer at St. Bartholomew's Hospital, made some important pronouncements on the point. His great experience as a teacher and examiner has led him to the conclusion that the five years' curriculum (a comparatively recent extension of the older four years) is too short. With so much to do and so little time in which to do it, the medical teaching of the present day was an organized system of cramming. So much time was spent in preparing the student to be a physician that there was little or none left to make him one. In other words, so much time was spent on preliminaries that practical clinical work was scamped. As an examiner of different licensing bodies for many years, he had come to the conclusion that the general standard of practical work in the final examination had been steadily and progressively failing. If each student could add to his curriculum a year of residence in a hospital as a house-officer without an examination to work for, he would obtain what was lacking. Under the present system, instead of gaining practical experience in the wards while they were students, when mistakes did no harm and could be corrected, they had to gain experience later in practice where mistakes were serious to themselves and to their patients. The remedy was to cut down the curriculum until the work required was not more than could be accomplished by the average man in the time allotted.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, Oct. 17, 1909.

Congress of Medical Officers of Public Health

The first congress of medical officers of the government was held here on October 15 and 16. There were about 600 persons present. The chief object of the congress was to fix a certain scale of remuneration for public health work. Naturally, also, scientific research was made the object of the transactions. The influence of the *Amtsärzte*, as the public health officers are called here, may be estimated if it is stated that the directors of all hospitals, the chiefs of all serum institutes, the medical inspectors of schools, all being appointed by the state, are *Amtsärzte*. Apart from the more sociologic papers read at the convention, there were some papers of more general medical interest. Thus Dr. von Kutschera spoke on the "Epidemiology of Cretinism." He has made the surprising observation that cretinism can be propagated by contact. He has examined the whole family of each subject studied, and in each case he was able to demonstrate personal contact between any two or more cases in a family. The paper was much commented on and discussed. Prof. Wagner von Jauregg, who has perhaps the greatest experience with cretinism and

goiter in Europe, admitted the possibility of the explanation offered by the author. The congress resolved to institute exact researches into the possible contagiousness of exophthalmic goiter or any other forms of hypothyroidism and hyperthyroidism. The new Austrian bill on epidemic diseases was discussed by the congress. A special sanitation program for communities was approved by the majority and forwarded to the government; other recommendations fixed the payment of compensations to persons who were prevented by quarantine from earning their living. The exclusion of compulsory notification of measles, puerperal fever and varicella from the list of notifiable diseases was disapproved.

Much time was devoted to the discussion of "natural sudden death" and its legal importance. Professor Haberda said that a sudden natural death really never occurred in healthy persons. The victims of sudden death during life only appear to be healthy, but they are subjects of chronic nephritis, atheroma, of ulcus ventriculi, of aneurism, without symptoms of grave disease having appeared or warned them beforehand. If death happens soon after a meal, poisoning is often suggested, and in history several times deaths of eminent men were attributed to poison, when an examination would have shown a very obvious natural cause for the sudden termination of life. The psychic factor is very important. Deaths due to fright or joy are by no means known only in fiction, as syncope is one of the most frequent causes of sudden death. A paper was read by Dr. Jürntratt on the epidemic of poliomyelitis in Austria. The first cases were noticed in 1908 in Vienna, whence the disease spread to the other provinces of the empire. Most of the affected children were between 2 and 5 years old; the mortality was 12 per cent. In no instance could the schools be held responsible for an outbreak; the frequency of the disease diminished constantly after September, 1908, although the schools were then opened after the summer vacancy. Nevertheless, transmission by contact has been proved without a doubt. One of the most important results of the congress is the decision to institute regular classes of postgraduate study in legal medicine for the *Amtsärzte*. This branch of the duties of a health officer is so important that it deserves strictest attention.

Reforms Demanded by Hospital Staff

Once more the unsatisfactory remuneration and requirements of the members of the hospital staffs have been made the subject of controversy between the organization of medical men and the managing boards of the government hospitals. About a year ago certain reforms of the present system were demanded by the doctors, and a special committee was empowered by the government authorities to promise all reforms. As yet the promises have not been fulfilled. Therefore the union of hospital staff doctors has informed the managers of the hospitals that unless the grievances are set right by November 1, all members of the union, composing about 80 per cent. of all the house physicians and nearly all the juniors of the hospitals, will give notice on that day. This would mean a standstill of all hospital and charitable work except at the clinics, for the directors and assistants alone cannot deal with the amount of work that would be on their hands. The chief demands are: Clear division of rights and duties between medical staff and administrative staff; free board and lodging; minimum salary of $30 a month; insurance against accidents and against claims of damages by patients while employed in hospital; choice of positions; an annual vacation of four weeks on full pay. The controversy has aroused much comment on the part of the press and public, and sympathy rests with the doctors, who are fighting for conditions long ago gained in many branches of common life.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Oct. 14, 1909.

Personals

Professor Salkowski, the distinguished physiologic chemist and director of the chemical department in the pathologic institute here, has been appointed an honorary professor. This title is a distinction that is accorded in Prussia to professors of unusual worth.

In the daily and medical press the announcement was made that Prof. v. Pirquet, formerly privat-docent in Vienna, and now in Baltimore, would be called to Breslau as the successor of Professor Czerny, who as previously announced has assumed charge of the clinic for children in Strasburg. This statement is incorrect; neither the faculty nor the educational department has as yet taken up the question of the successor of Czerny.

Consultants and Practitioners

Practicing physicians have frequently had the unpleasant experience that patients whom they have sent to a specialist for a single treatment or for diagnosis were retained by the consultant for further advice without the knowledge of the family physician so that the practitioners were deprived of their patients. It is to be hoped that an end has been put to this abuse by a recent decree of the Prussian medical Court of Honor. The court has decided that a physician called as a consultant shall not undertake the independent treatment of a patient, unless in exceptional circumstances, without the consent of the attending physician.

Women Medical Assistants in the Municipal Hospitals

Women physicians are slowly gaining ground among us. At a recent meeting of the council it was decided to install female medical assistants in the municipal hospitals, beginning with the Moabit and Urban.

The Epidemic of Infantile Spinal Paralysis

The epidemic of acute infantile paralysis in Westphalia, the appearance of which I have already reported, has reached a remarkable extent. Professor Krause, the director of the medical policlinic in Bonn, who was sent to Hagen to investigate the disease, has made a report to the department of education a few days ago. From this report, which will soon be published in the *Deutsche medizinische Wochenschrift* I can give you to-day the following interesting facts. The entire number of deaths among 436 cases of the Province of Arnsberg numbered 66, the youngest child attacked was 4½ weeks old, the oldest 15 years. Most cases occurred in the second year of life. The female sex was somewhat more affected than the male. In over 90 per cent. of the cases symptoms referable to the stomach and intestines were noted at the beginning of the disease, and in two-thirds of the cases the children were attacked with severe diarrhea, rarely with vomiting, while in one-third constipation was present. In many cases there was at the same time a gastrointestinal catarrh affecting other members of the family; in one case seven members of the family suffered at the same time from diarrhea. As to paralyses, the limbs were affected as to frequency in the following order: one leg or single groups of muscles, one arm, both legs, one-half of the face, both legs and one arm, and lastly paralyses of the bladder, which occurred only with coincident paralysis of both legs. In severe cases there were also respiratory symptoms. In the fatal cases respiratory paralysis seems to occur regularly. The sensorium was with few exceptions entirely free even at the height of the disease. A number of cases of sudden death with disturbance of breathing shortly before the fatal end are referred to acute infantile paralysis. The paralyses were uniformly completely flaccid. The tendon reflexes were abolished, the skin reflexes for the most part fully retained. Corresponding to the clinical findings there was discovered in eight of the nine cases submitted to autopsy, a severe enteritis. The mesenteric glands were also swollen and enlarged and there was a splenic tumor. Reports of the histologic investigation of the central nervous system are not yet available. Krause distinctly advocates the infectious character of infantile paralysis. The occurrence of groups of cases was plainly established. It is certain that in many cases also a communication of the disease by healthy infection carriers can be demonstrated. The gastrointestinal tract is in all probability the portal of entry. The particular method of infection has not yet been determined. In Westphalia, as some years ago in Sweden, a remarkable mortality of chickens was established. Bacteriologic examinations have so far led to no definite results. Pathogenic germs especially have not been demonstrated. Attempts to infect mice, guinea-pigs, pigeons, chickens have for the present led to no result. Experiments with apes are not yet concluded. In several cases, however, by subdural, intravenous and intraperitoneal inoculation of material from cases of infantile paralysis into rabbits it has been possible to bring about the death of the animal with pronounced symptoms of affection of the central nervous system. The investigations will of course be continued. Therapeutically, Professor Krause recommends the isolation of the patients in the acute febrile stage. Calomel or castor oil is to be prescribed for the gastrointestinal symptoms. He frequently observed a rapid regression of the paralyses after lumbar puncture. The usual treatment is to be adopted in convalescence.

Change of Diet in Municipal Hospitals

The frequent cases of food poisoning which have occurred in the Rudolph Virchow Hospital in previous years have now led to an alteration of the dietetic regulations for the

municipal hospitals and more light vegetables are to be used. Dishes of rice and meal, macaroni and the like are to be supplied in place of the large messes of potatoes. The nurses shall provide for each patient, if required, even more than a half a pound of bread per day. Instead of breakfast and afternoon coffee, cocoa, gruels and all other drinks ordered by physicians are to be furnished.

School Dental Clinic in Schöneberg

A school dental clinic will be established by the city also in Schöneberg. The city dentist draws a salary of $1,500 (6,000 marks), but has not the privilege of private practice. In addition a nurse with a yearly salary of $375 (1,500 marks) will be installed.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Oct. 4, 1909.

Hygiene in the Navy

M. Chéron, assistant secretary of the navy, has instituted in each maritime division a bureau of naval hygiene, similar to the bureaus of military hygiene of the garrisons, which will cooperate with the recently established superior commission of hygiene and epidemiology and will organize the prophylaxis of contagious diseases, study on the spot all questions of hygiene in the naval service and will establish a watch over the quality of the drinking-waters. In order to keep himself informed constantly and precisely in regard to the importance and the number of various epidemics in the naval service, M. Chéron has just decided to have the maritime prefects send him daily telegrams informing him of the following points in regard to the maritime establishments:

1. The movement of the patients (arrival, departure, death) during the foregoing twenty-four hours.

2. The number of cases of each contagious disease under treatment.

M. Chéron desires to establish a regular statistical service in regard to the morbidity and mortality of the merchant marine. Cases of contagious diseases will be immediately reported to him.

Medicine at the International Aviation Exposition

At the International Exposition of Aerial Locomotion, which opened a few days ago at the Grand Palais, there has been organized an especial section for aeronautic physiology. The Museum of Natural History has placed on exhibition series of flying animals from insects up to the birds and the flying mammals. There is also on exhibition a series of stuffed pigeons illustrating the researches of Marey on the physiology of flight among birds, and charts recording the most remarkable heights of ascension. The results of physiologic research on the influence of altitude on the physical organism are graphically shown; the influence on the hearing, on the state of the blood, etc. There are also exhibited various instruments employed for research into the physiology of altitude, notably various models of apparatus to measure arterial tension, also models of oxygen inhalers intended to prevent the serious effects of excessive reduction of the atmospheric pressure in ascents to very great heights. Among the engravings there is a collection of portraits of aeronauts who have taken part in ascensions for scientific research, including Gay-Lussac, Robertson, Green and others.

The Increase of Medical Fees

As I mentioned in one of my previous letters (THE JOURNAL, August 28, 1909, liii, 726), the question of the increase of medical fees was submitted, on the initiative of the medical society of the fourth division (*arrondissement*) of Paris, to the consideration of a mixed commission representing the various medical societies of Paris and its environs, organized under the name of the *Fédération des médecins de Paris et de la Seine*. The federation approved the increase of fees and decided to address to the political papers a communication setting forth the reasons for this increase; likewise a circular to all the physicians of Paris and the department of the Seine. The federation believes that in Paris and in the suburbs the minimum fees for working people, domestic servants and persons of small salaries and restricted means should be 4 francs for a visit at the patient's home and 3 francs for a consultation in the physician's office. For employers, merchants and persons in comfortable circumstances, the minimum fee should be 6 francs for a visit and 4 francs for an office consultation. Above these rates, fees should be regulated according to convenience and circumstances, by agreement with the patient in accordance with the means of the latter, the standing of the physician, and the importance of the services rendered. The federation has decided to ask double fees for Sunday, evening and night visits.

Not all physicians, however, approve of these measures. For instance, the *Journal des Praticiens*, edited by Dr. Huchard, has published an editorial approving the increase of medical fees by the individual action of physicians, but strongly condemning collective public action through the papers, on the ground that patients will be offended and the medical profession be made to appear mercenary and self-seeking. These conditions, moreover, will be to the special disadvantage of the younger physicians; for, whatever happens, the public will continue to rely on the older physicians, in whom people have learned to have confidence.

Principles of Medical Ethics

The general council of the component medical societies of Paris has recently adopted the following principles governing the attitude of physicians with reference to their colleagues. A physician called in during the absence of the regular family physician should continue to treat the patient only during his colleague's absence. If the patient wishes the physician who has thus been called to remain in charge of the case the latter may continue to treat the patient after having warned his colleague. A physician summoned in an emergency to treat a patient who is under the care of another physician should confine himself to prescribing what is immediately necessary, and should not return to see this patient unless called in consultation by the physician in charge of the case. A physician called in to see a patient who is being regularly treated by another physician should do his best to have the latter recalled to the case. If he fails, he should without delay notify the colleague whom he has replaced. A locum tenens should refrain from attending a patient with whom he has become acquainted only through the other physician's practice, unless he obtains the permission of the latter to do otherwise. A physician called into a consultation ought to abstain from making any criticisms in the presence of the patient or those around him. The treatment agreed on in private consultation should be carried out by the physician in charge. The consulting physician should not return to see the patient unless called in again and authorized by the physician in charge. A fraternal spirit should prompt the acceptance of the consulting physician proposed by the family, whatever his age, position or distinction or lack thereof, provided he is personally and professionally beyond reproach. The cabinet of consultation is a neutral ground.

Pharmacology

[CONTRIBUTION FROM THE CHEMICAL LABORATORY OF THE AMERICAN MEDICAL ASSOCIATION]

LABEL AND CONTENTS

Discrepancies Found in Estimating Sodium and Potassium in Pharmaceutical Mixtures

W. A. PUCKNER

The Council on Pharmacy and Chemistry submitted to the laboratory for examination a proprietary alkaline elixir of rhubarb which, according to the label, contained among numerous other ingredients, 20 grains of potassium bicarbonate to each fluid ounce. As a result of the laboratory analysis[1] it was reported to the Council that if all the potassium in the preparation was present in the form of the bicarbonate, the amount of potassium bicarbonate thus indicated was less than 2 grains per fluidounce instead of 20 grains as given on the label. In fact the examination seemed to show that practically all the bicarbonate was present as sodium bicarbonate, a result that the present—modified—label on the product bears out.

The explanation offered by the firm regarding the discrepancy between the statement on the labels and the facts as brought out by the laboratory analysis was as follows:

"The original formula called for potassium bicarbonate as printed on the label, but acting on the advices of a number of physician friends, we substituted sodium bicarbonate for part of potassium bicarbonate and reduced the total alkalinity

1. Details of the analytical method pursued in estimating the amount of sodium and potassium in the presence of organic matter will appear in the annual report of the Chemical Laboratory of the American Medical Association.

about one-half. . . . In publishing the formula we went back to the original record on file in the office and the discrepancy which you have noticed is due to lack of co-ordination between the various departments."

The name of the firm putting out this preparation is not published as the label has been changed to conform with the facts. The matter is referred to for the specific purpose of calling attention to the need of some sort of control or oversight of non-official pharmaceutical products. The Council on Pharmacy and Chemistry, with the aid of the Association's laboratory, has repeatedly brought to light both the lack of uniformity of composition and the discrepancies between labels and contents that exists in many proprietary preparations; these, too, emanating from some of the more reliable firms. What the state of affairs must be in the case of those proprietaries put out by the pseudo-pharmaceutical houses which have no reputation at stake, can better be imagined than described. If the Council and the Association's laboratory have accomplished nothing more than the awakening of manufacturers to the fact that the physician demands that he shall know just what he is giving his patient, these bodies have more than justified their reason to be.

CANCEROL

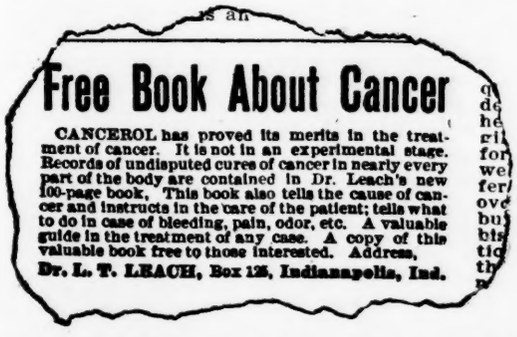
Dr. L. T. Leach's Cancer Cure and His Parkview Sanatorium

In recent issues of THE JOURNAL[1] details were given of two "cancer cure" concerns that have been declared fraudulent by the post-office authorities. This week we present a third, that of Dr. L. T. Leach and his "cure," Cancerol. In giving this case, we cannot do better than to quote it at length from the memorandum which was submitted by the assistant attorney-general, Judge R. P. Goodwin, to the Postmaster-General:

"Dr. Leach advertises as a cancer specialist. He treats patients chiefly by mail, but conducts a small sanatorium at Indianapolis, where such few patients as present themselves are cared for. About 90 per cent. are mail patients. The mail treatment costs about $25 a month and the sanatorium treatment about $150 a month.

"Dr. Leach is about 35 years of age and graduated from the Medical College of Indiana in 1901. For some time after his graduation, he assisted his father-in-law, Dr. D. M. Bye, in a business similar to that under discussion, and later commenced this business of his own. This is the extent of his experience in treating cancer."

As a specimen of advertising done by Leach, we reproduce an advertisement that appeared in the *Kansas Farmer*, Nov. 21, 1907. This seems to have been the stock "copy" used by


Free Book About Cancer
CANCEROL has proved its merits in the treatment of cancer. It is not in an experimental stage. Records of undisputed cures of cancer in nearly every part of the body are contained in Dr. Leach's new 100-page book. This book also tells the cause of cancer and instructs in the care of the patient; tells what to do in case of bleeding, pain, odor, etc. A valuable guide in the treatment of any case. A copy of this valuable book free to those interested. Address,
Dr. L. T. LEACH, Box 128, Indianapolis, Ind.

this concern in obtaining its victims. It is interesting in this connection to note that a subscriber to the *Kansas Farmer* who criticized the "medical" advertisements which that publication carried, was told by the editor, that "we will not . . . assist in any kind of a swindle."

CANCEROL

On his [Leach's] receipt of an inquiry, a copy of a pamphlet entitled "Facts About Cancer," a symptom-blank and a sheet containing alleged testimonials are sent to the correspondent. These matters are carefully prepared to convey the impression that Dr. Leach has discovered and offered a treatment by medication that will cure practically all cases of cancer. For example, such statements as the following are made:

> The agent which meets this requirement is Cancerol. Hundreds have been cured in this way where it would have been impossible to come to my Sanatorium. Cancerol is the mildest efficient remedy known. . . . Cancerol may be employed in most any situation of the body. Cancerol has cured many cases where all other remedies have failed.
>
> Here is one who has made a specialty of the disease and who cures cancer.
>
> I can cure more serious cases of cancer than anyone else, bar none.
>
> In the vast majority of cases the medical treatment which I employ, in varying strengths and combinations, will give satisfactory results when all other methods fail.
>
> I do not know that I have ever failed in a case where I had given it as my professional opinion that I could cure. . . . I have cured many of those so-called incurable and hopeless cases; pronounced so by some physicians.
>
> Nothing has ever been compounded which, in my judgment and in the judgment of other competent doctors, is as efficient as Cancerol. Where I can get cases early, not one in ten need result fatally.

"The correspondent is informed that, if he will answer the questions asked in the symptom-blank, Dr. Leach can correctly diagnose his trouble and will advise him of his condition.

"On the return of the symptom-blank, Dr. Leach continues his correspondence, pretending to report his opinion of the disease, and offering to treat the case by mail at about $25 a month."

ANALYSIS OF THE "CURE"

The medicines were analyzed by the government chemists and found to consist essentially of cottonseed oil and simple tonics. The "treatment" for cancer of the uterus consisted of:

1. "Blood Renovator." Found to be but a simple bitter, alcoholic tonic.

2. "Cancerol: Reg. U. S. Pat. Office." Consisted of cottonseed oil.

3. "Special Germ Killer and Disinfectant." A fluid similar to cresol, but which, diluted to the degree called for in the directions, possessed little, if any, germicidal power.

4. Red, sugar-coated pills, consisting essentially of sodium bicarbonate, ferrous sulphate, capsicum and glucose; in other words, a simple iron tonic.

Should the victim have an external cancer, he was sent the simple tonic, the cottonseed oil and the red pills as described above, and in addition received:

"Prescription 16": An alcoholic preparation containing opium.

"Healing Salve": Boric acid and bismuth salts in petrolatum.

"Day Oil": One-half ounce of ichthyol.

"De Vit-Ol": Caustic paste containing 34 per cent. of arsenic.

From the results of these analyses the government chemists reported as follows:

> "The above findings clearly show that there is nothing in the treatment submitted by the Post-Office Inspector to warrant any claims or representations to the effect that the treatment is capable of mitigating or effecting a cure of cancer."

CLAIMS VERSUS ADMISSIONS

"Dr. Leach at the hearing was compelled to admit that there was nothing in the treatment purchased by the inspector which could be relied on to cure a case of cancer. He contended that he had not promised to cure the case. This contention, however, is not supported by the facts. The letters and printed literature are clearly intended and calculated to induce the patient to purchase the treatment by the hope of a cure."

THE "CURES"

"The inspector obtained the names of persons who had paid money to this advertiser, and by correspondence received reports of the results of the treatment in about forty instances. Examination of this correspondence reveals that but seven out of the forty claimed to have been cured, and that in but 2 cases was the patient examined by a local physician who diagnosed the trouble as cancer. In eighteen other instances in which the local physician had examined the patient and stated that the trouble was cancer, the patients found no benefit from the treatment. In no case had there been a microscopic examination of the growth, so that it cannot be positively said that in any case the disease was a true cancer.

"The result of this correspondence is so strikingly in contrast with the advertising claims as to prove conclusively, I think, the spurious quality of the medicines that are sold by

1. "Curry Cancer Cure," THE JOURNAL, Oct. 9, 1909; "Bye Cancer Cure," THE JOURNAL, Oct. 16, 1909. The matter that has appeared in THE JOURNAL concerning the Curry, Bye and Leach "cancer cures" has been reprinted as a pamphlet, entitled, "A Trio of Cancer Fakes;" it will be sold at four cents a copy.

this advertiser as a cure for cancer, and especially in view of the findings of the analyses."

After thus showing the mendacity of Leach's claims, the valuelessness of his medicines and the worthlessness of his "cures," Judge Goodwin, the assistant attorney-general, sums up the case against this man as follows:

"Dr. Leach's pretense that he can properly diagnose cases of cancer and prescribe remedies for them without personal examination merely by this correspondence scheme is without any scientific or proved foundation, and he must well know that it is mere pretense. What is undoubtedly the fact that out of the many cases submitted to him and diagnosed by him as cancer there are some which are not cancer at all, but simply non-malignant sores which in some instances yield to treatment, is what affords him a basis on the recovery of such cases to claim that he has cured cancer.

"That Dr. Leach has not succeeded where the profession has failed, and that he is not honestly endeavoring to cure his patients, but that his pretensions to have discovered a cure for this disease are false and fraudulent and asserted merely to deceive and defraud suffering humanity, is revealed by the analysis of his medicines and the finding that they are merely cottonseed oil and some ordinary tonics and caustics."

In short, it was fairly evident that Leach's business was that of using the United States mails as a means of obtaining money by fraud. This being the case, the assistant attorney-general recommended that the Postmaster-General should issue a fraud order against Leach. This was done.

RESINOL

To the Editor:—Please publish the ingredients and proportions of each, used in making Resinol.

E. E. C., Manila, P. I.

ANSWER: Resinol has not been examined in the Association's laboratory, and we are unable to obtain from other sources any detailed information regarding its composition. The Philadelphia branch of the American Pharmaceutical Association issued a pamphlet some two years ago in which the following appeared relative to this and similar products:

"Within recent years there have been introduced a number of compound ointments that in their supposed range of therapeutic usefulness are scarcely equalled and certainly not excelled by the magic unguents of the quacks and charlatans of continental Europe, who, several centuries ago, essayed to cure all manner of disease by inunction or the simple application of compound ointments of secret composition.

"As typical of this modern class of panaceas we may mention Resinol. This preparation is being widely advertised at the present time in the daily papers as a valuable adjunct to Resinol Soap in the treatment of all kinds and varieties of diseases of the skin. The makers of this particular mixture, in the form of an ointment, modestly assert that it will cure all skin diseases, and is also 'A Specific for Pruritus Ani, Itching Piles, and Pruritus Vulvæ.'

"An equally efficient ointment, so far as the ointment itself and not the misleading claims made in connection with it may be concerned, is to be found in the Unguentum Resorcini Compositum, N. F. This ointment represents:

Resorcinol	6 parts
Zinc Oxid	6 parts
Bismuth Subnitrate	6 parts
Oil of Cade	12 parts
Paraffin	10 parts
Petrolatum	25 parts
Hydrous wool fat	35 parts"

Solubility of Phenol

To the Editor:—In regard to making aqueous solutions of phenol (carbolic acid), as discussed in THE JOURNAL, Oct. 2, 1909, p. 1114, if the phenol is dissolved in soap solution it will mix readily with water. I use a solution of green soap made according to the following formula:

Green soap	16 parts
Alcohol	8 parts
Oil of cloves	1 part
Water, sufficient to make	32 parts

Equal parts of this solution and of phenol are mixed, and if the mixture is not clear the addition of a few drops of alcohol will make it so.

B. L. HALE, M.D., Cherryvale, Kan.

COMMENT: This process yields a preparation similar to the Liquor Cresolis Compositus, U. S. P., a 50 per cent. solution of cresol in green soap, or to the Liquor Sodii Carbolatis, N. F., which is a 50 per cent. solution of phenol in water made by the aid of 3.5 per cent. of sodium hydroxid.

Correspondence

Frequency of Tuberculosis in Man

To the Editor:—Under this caption an editorial in THE JOURNAL (Oct. 23, 1909, liii, 1402) discusses the apparent disparity between the findings of Naegeli of Zurich and Burkhardt of Dresden and those of Beitzke of Berlin.

Naegeli found evidence of either latent or active tuberculosis in 97 per cent. of 500 successive adult bodies, and Burkhardt obtained very similar results in a large number of autopsies. Beitzke, in 1,100 bodies studied especially with reference to the presence of healed and active tuberculosis, found between 50 and 60 per cent. with positive evidence of the disease, either in the lungs or lymphatic glands.

There appears to be no doubt that Naegeli and Burkhardt were correct in their statements, for their conclusions were not based wholly on finding caseous areas or calcareous deposits in the lungs and lymphatic glands, nor yet on the presence of pleuritic adhesions, but rather on microscopic and bacteriologic examinations of these and other body tissues. If I have read their article aright, they often found tubercle bacilli in the meninges, in the glands and in thoracic or abdominal organs in cases in which there were no macroscopic appearance of the disease, while for Beitzke's purpose such minute examinations were unnecessary. The explanation that the larger percentage of tuberculous subjects found by the first two observers was due to greater frequency of the disease in their cities than in Berlin, or to a physically poorer class of patients, does not seem to apply to the case; for the observers were working on different problems; their methods were not the same, and the latter observer had no occasion to search for bacilli unless macroscopic appearances suggested the presence of tuberculosis.

Eminent surgeons have asserted that 80 per cent. of the human family are tuberculous, and there seems no good reason to doubt that they were correct, from their point of view; but as they do not see many medical cases of tuberculosis, their estimate would naturally give a lower percentage than those of Naegeli and Burkhardt.

Beitzke believes that Naegeli's statement should be changed to read: "In autopsy material of the hospitals of certain large cities nearly every adult body is tuberculous." He also believes that only about one-half of all persons in all states of society suffer from a demonstrable tuberculous lesion during their lives.

These appear to show that there is really no discrepancy between his findings and those of Naegeli and Burkhardt, who wrote only of the post-mortem conditions, many of which evidently could not possibly have been demonstrable during life. Considering the exhaustive methods employed by Naegeli and Burkhardt, the opinions of surgeons, and the conditions found by Beitzke, I can find no reason for doubting that practically every adult human being has, or has had, either latent or active tuberculosis.

It is most important that this should be recognized by the profession in their efforts to prevent tuberculosis, and also from a prognostic point of view for patients suffering from the active manifestations of the disease. If we all harbor tubercle bacilli, it is clear that they do not cause much more trouble than numerous other pathogenic organisms often found in healthy bodies; their host is in no special danger from them so long as he keeps well; but he should never abuse his body, nor allow his physical condition to run below normal if it can possibly be prevented.

If we all harbor these bacilli there is no reason for the insane fear of taking in a few more or less, and we need not

shun the unfortunate sufferers from consumption, provided they are cleanly in their habits.

If we all have tuberculosis, the futility of directing our prophylactic measure chiefly against the bacilli, as has been so commonly done in recent years, becomes at once apparent, and we must realize that such measures are only a small part in the battle against the white plague, and that they are of far less importance than securing highly resistant bodies by good heredity, good environment and sane living.

E. FLETCHER INGALS, Chicago.

The Responsibility of the Mentally Subnormal

To the Editor:—Your editorial on the above subject (Oct. 23, 1909, liii, 1403) is sound. No man who has committed a murder and who has been judged irresponsible may safely be entrusted with liberty. With the knowledge that his past record of insanity renders him immune to punishment, he has little to deter him from a repetition of his antisocial act; and an act once successfully committed is, under such circumstances, a constant invitation to its repetition.

Whether the state should feel obliged to support at its expense those who are a constant menace to others and who cannot possibly be useful citizens, I cannot say; there might be a more summary way of dealing with them; but if there be no death penalty certainly there should be no less than a life sentence for them.

The man with a mental make-up which sets at naught the right of his neighbor to die a natural death certainly has no right to be at liberty, whether he is what is ordinarily called "responsible" or not. The very fact that he is of that make-up renders him irresponsible and it is the state's duty, the first time this becomes apparent, to take care of him.

G. H. HEALD, Washington, D. C.

The Netting Eye-Shield

To the Editor:—The improved eye-bandage described and illustrated by Dr. C. W. Talbot (THE JOURNAL, Oct. 30, 1909, liii, 1487) is exactly like the Fuchs *Schutzgitter* (lattice-shield) which has been in use in the clinic in Vienna for the past twenty-five years. It is described in Elschnig's edition of Czermak and also in all text-books on ophthalmic surgery.

It seems that an author should examine into the originality of his device before publishing a claim for originality, and that THE JOURNAL is also at fault for inserting the description in its worthy columns.

JESSE S. WYLER, Cincinnati.

Association News

Trustees' Meeting

The Trustees of the American Medical Association met in Chicago October 22 and 23, at the rooms of the Association. Three sessions were held on Friday, October 22, and one on Saturday, October 23. There were present at all sessions:

Dr. M. L. Harris, Chicago (Chairman).
Dr. Wisner R. Townsend, New York (Secretary).
Dr. Philip Marvel, Atlantic City, N. J. (Vice-chairman).
Dr. W. W. Grant, Denver, Colo.
Dr. Philip Mills Jones, San Francisco, Cal.
Dr. W. T. Councilman, Boston, Mass.
Dr. W. T. Sarles, Sparta, Wis.
Dr. C. E. Cantrell, Greenville, Texas.
Dr. C. A. Daugherty, South Bend, Ind.

The first session on Friday was held from 10 a. m. to 12:30 p. m. The secretary reported that since the last meeting the following circular letter had been sent the chairmen of all standing and special committees, and that replies had been received from all:

"On September 10 the following notice was sent to you:

Your attention is respectfully called to the following resolutions which are in effect in the Board of Trustees:

First: That all annual appropriations be made to date from the termination of the annual session to the termination of the next annual session.

Second: That appropriations so made must not be exceeded.

Third: That suitable blanks for use by committees, etc., in making applications, bills, etc., will be provided on application to the Secretary of the Association, Dr. George H. Simmons, 535 Dearborn Avenue, Chicago, Ill.

The Trustees would kindly request that you present an estimate of the funds needed for the ensuing year to the Secretary on or before October 1, as there will be a full meeting of the Board in October, when the matter will be taken into consideration.

Your attention is respectfully called to the following amendments to the By-Laws which were passed by the House of Delegates at Altantic City:

Chapter IX, Section 1: Add to the section the words "during the intervals between the sessions of the House of Delegates, the Board of Trustees shall supervise the action of committees constituted by action of the House."

Chapter X, Section 1: Add to the section the words "any of these committees, acting during the intervals between the sessions of the House of Delegates shall be subject to the Board of Trustees."

"Should your committee desire to take any action during the intervals between the meetings of the House that would be governed by either of the above sections, won't you kindly first communicate with the Chairman of the Board of Trustees, Dr. M. L. Harris, 100 State street, Chicago, Ill., in order that the matter may be officially brought to the Board's attention.

"Yours very truly,
"M. L. HARRIS, Chairman,
"WISNER R. TOWNSEND, Secretary."

Dr. Harris, as Chairman of the Committee on Arrangements for the next meeting, reported that he had visited St. Louis and had arranged for Dr. Dorsett to act as Chairman of the Local Committee on Arrangements.

Dr. Harris, Chairman of the Committee on Postal Relations of THE JOURNAL, reported progress, and stated that the action of the Board of Trustees and House of Delegates at Atlantic City, had been duly forwarded to the Third Assistant Postmaster General, and receipt acknowledged.

A letter from Dr. Wynn, outlining a plan for providing an exhibit of an educational nature, was read and Dr. Wynn was requested to present more definite data at the next meeting of the Board.

A letter from Dr. Reed was read, asking for an interpretation of the amendments to the by-laws made at Atlantic City. After a discussion of the same the following resolution was passed:

In accordance with the Amendments of By-Laws passed at the last meeting, at Atlantic City, which Amendments were passed without the knowledge or solicitation of this Board, it feels that it is the duty of the Board of Trustees to supervise the work of all committees.

The Board discussed fully the question of THE JOURNAL advertising and approved of the work and methods in use in that department.

SECOND SESSION, HELD FROM 3:15 TO 6:30 P. M.

A letter was read from the Honorable Seth Low, of the National Civic Federation, asking that delegates be appointed for the meeting to be held in Washington, Jan. 5, 1910, next, by that body. The Board passed a resolution requesting the president, Dr. Gorgas, to appoint six delegates to represent the American Medical Association.

The subject of the publication, by the Association, of books, was discussed and a committee appointed to consider the subject more fully.

Letters from the various committees asking for appropriations for the year were then taken up, and each matter considered separately. After full discussion on the needs of the committees, so far as the Board could ascertain, the following appropriations were made for the year 1909, these appropriations to apply from the termination of one annual meeting to the termination of the next annual meeting:

BUDGET FOR 1909-1910

	Amount Appropriated.
Judicial Council	$ 25.00
Committee on Medical Legislation	1,500.00
Committee on Transportation and Place of Session	25.00

Council on Medical Education	6,000.00
Board of Public Instruction on Medical Subjects	750.00
Council on Pharmacy, etc., and Chemical Laboratory	8,000.00
Committee on Organization (Traveling expenses)	6,000.00
Committee on Ophthalmia Neonatorum	100.00
Committee on Scientific Research	1,500.00
Committee on Nomenclature and Classification of Diseases	250.00
Committee on Pharmacopeia	300.00
Committee on Postgraduate study	900.00
Council on Defense of Medical Research	500.00
Committee on Scientific Exhibit	600.00
Committee on Uniform Regulation of Membership	25.00
Committee on Anesthesia	500.00
Committee on Selection of Insignia	25.00
Committee on Preventive Medicine and Public Health to Cooperate with Committee on Medical Legislation	50.00
Section Secretaries	600.00
State Secretaries Meeting	100.00
	$27,750.00

All unexpended balances at the end of the year revert to the Treasury of the Association, except that of the Committee on Scientific Research.

THIRD SESSION, HELD FROM 8:30 TO 10:30 P. M.

Dr. Marvel presented the report of the Committee of Arrangements of the Trustees for the Atlantic City meeting, involving expenses paid by the chairman, amounting to $5,919.75.

The subject of the large number of new committees appointed each year by the House of Delegates and the overlapping of the work of many of these, the demands of each for funds for stenographic purposes, etc., was carefully discussed, and, as a result, the Board passed a resolution recommending, in the interest of efficiency and economy, that the Committee on Organization of the Council on Public Health, Publicity and Legislation, should seriously consider the consolidation of a number of the present special committees.

FOURTH SESSION, SATURDAY, OCT. 23, HELD FROM 10 A. M. TO 12:30 P. M.

The new building for the Association was thoroughly considered. The architects, Holabird & Roche, were present and explained the plans that had been provided by the Building Committee. After a thorough discussion it was unanimously agreed that the Board of Trustees proceed with the erection of the new building, following the plans and specifications as revised, and the Chairman and Secretary of the Board of Tustees were authorized to sign the necessary contracts for the erection of said building. A Building Committee of three was appointed, consisting of Drs. Harris, Simmons and Grant, and directions given to proceed with the work without undue delay.

After reading and approving the minutes, the meeting adjourned.

M. L. HARRIS, Chairman.
WISNER R. TOWNSEND, Secretary.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

WRIGHT BLOOD-STAIN TECHNIC

To the Editor:—Please publish the full technic for use of the Wright blood-stain, particularly in malaria.

D. G. LEMKOWITZ, M.D., Berwick, La.

ANSWER.—Cabot's "Clinical Examination of the Blood," p. 41, gives the following technic:

1. Drop on the blood film with a medicine dropper as much of the stain as will remain without spilling off; leave it there for one minute. This is chiefly to fix the film.

2. Add to the fluid on the cover-glass (or slide) sufficient water drop by drop to make visible a greenish metallic scum on the surface. For a ¾ inch square cover-glass six to eight drops are usually needed, but the exact amount does not make any essential difference. Let the stain thus diluted remain for about two minutes on the film.

3. Wash the film in tap water and let it stand in water for one or two minutes more, or until the thinner portions of the film are yellowish pink. Water washes out part of the blue dye and differentiates the stain.

4. Dry cautiously with blotting paper or filter paper and mount in balsam.

The whole process should not consume more than five minutes.

CHROMIUM SULPHATE

To the Editor:—Enclosed please find literature on "Chromium Sulphate in Medicine" sent out by John Wyeth & Brother, Inc. I would be pleased to receive an opinion on this drug.

G. D. HENDERSON, Holyoke, Mass.

ANSWER.—The use of chromium sulphate was discussed in THE JOURNAL, Nov. 28, 1908, p. 1885, and reference was there made to an article by L. Kolipinski (*Monthly Cycl. and Med. Bull.*, September, 1908). This appears to be the only contribution to medical literature on the therapeutic use of chromium sulphate. In his article, Kolipinski stated that so far as he knew his statements had not been confirmed by others, nor had this chemical attracted attention as a medicine. As the medical profession has been given ample opportunity to test Kolipinski's claims, it is very probable that such tests have been made by various physicians and having resulted unfavorably have not been deemed of sufficient importance for publication. The remarkable statements regarding the cure of locomotor ataxia must be regarded with critical conservatism, inasmuch as it is known that periods of apparent improvement or at least a failure of the disease to advance for a considerable time are frequently observed. The article stated that a symptomatic cure of hypertrophy of the prostate gland in old men is usually achieved in a few months but as no corroborative report of its use in this common disease has been received, it is fair to infer that the medicine in the hands of others has failed to accomplish what its introducer claims for it. So long as physicians write such optimistic reports regarding the action of medicines, manufacturers will, doubtless, continue to use these reports for advertising purposes.

JEFFERSON ADDRESSES AND ANNOUNCEMENTS WANTED

To the Editor:—I am collecting the introductory and valedictory addresses delivered at Jefferson Medical College since its foundation, which are to be placed in the library. I am also desirous of completing the library's files of the annual announcements of Jefferson Medical College prior to 1896-7. If Jefferson alumni, or any others, have any of the addresses or announcements which they are willing to dispose of, I will greatly appreciate the receipt of them. They can be sent to me in care of the "Librarian, Jefferson Medical College, 10th and Walnut Sts., Philadelphia.

H. R. M. LANDIS, M.D.

The Public Service

Medical Department of the Army

Changes for the week ended Oct. 30, 1909:

Phalen, J. M., capt., granted leave of absence for 2 months, when relieved from duty in the Philippines.

Duncan, W. A., capt., ordered to the Walter Reed Army General Hospital, Washington, D. C., for observation and treatment.

Harris, J. R., capt., granted leave of absence for 1 month.

DeLaney, E. A., capt., ordered to report for examination for promotion at Washington, D. C.

DeWitt, Wallace, capt., granted an extension of 1 month and 20 days to his leave of absence.

Van Horn, J. B., M. R. C., ordered to active duty; will proceed to Fort Mackenzie, Wyo., for duty.

Lemmon, Robert, M. R. C., ordered to sail for Philippine service Jan. 5, in stead of Nov. 5, 1909.

Van Kirk, H. H., M. R. C., granted leave of absence for 7 days.

Sherwood, J. W., M. R. C., ordered from Fort Wiliams, Me., to Fort McKinley, Me., for temporary duty.

Koyle, F. T., M. R. C., granted leave of absence for 2 months, on arrival at station in the United States.

Coffin, H. L., M. R. C., relieved from active duty in the service of the United States, Nov. 9, 1909.

Laflamme, F. L. K., dental surgeon, left Fort Wayne, Mich., and arrived at Fort Brady, Mich., for duty.

Lauderdale, C. E., dental surgeon, left Fort Huachuca, Ariz., for duty.

Medical Corps of the Navy

Changes for the week ended Oct. 30, 1909:

Byrnes, J. C., medical inspector, ordered to command the Naval Hospital, Naval Station, Narragansett Bay, R. I.

Hoen, W. S., P. A. surgeon, detached from the *Philadelphia*, and granted sick leave for 3 months.

Grayson, C. T., P. A. surgeon, detached from the Naval Medical School Hospital, Washington, D. C., and ordered to the *Mayflower*.

Dykes, J. R., P. A. surgeon, detached from the *Mayflower*, and when discharged from the Naval Hospital, New York, ordered to the Naval Medical School Hospital, Washington, D. C., for duty.

Beyer, H. G., medical inspector, ordered to duty at the Naval Medical School, Washington, D. C.

Riggs, C. E., surgeon, ordered to the Naval Academy.

Commissioned Passed Assistant Surgeons: J. B. Mears, from July 14, 1908; T. W. Reed, from Sept. 21, 1909; C. E. Strite, from Sept. 27, 1908; R. C. Ransdell, from Nov. 24, 1908; W. S. Kuder, from March, 24, 1909; C. K. Winn, from March 24, 1909; J. P. Haynes from April 16, 1909; T. W. Raison, from June 1, 1909

Public Health and Marine-Hospital Service

Changes for the seven days ended Oct. 27, 1909.

Carter, H. R., surgeon, directed to proceed to Fort Wayne, Ind., on special temporary duty.

Wasdin, Eugene, surgeon, granted 1 month's leave of absence from Oct. 22, 1909, on account of sickness.

Nydegger, J. A., surgeon, leave of absence granted for 1 month and 7 days from Sept. 10, 1909, amended to read 1 month and 5 days.

Sprague, E. K., surgeon, leave of absence granted for 16 days from Oct. 8, 1909, amended to read 7 days.

Lumsden, L. L., P. A. surgeon, detailed to represent the Service at the Annual Conference of Sanitary Officers of the State of New York, to be held in Rochester, N. Y., Nov. 10-12, 1909.

Parker, H. B., P. A. surgeon, granted 3 days' leave of absence from Oct. 20, 1909, on account of sickness.

Anderson, John F., P. A. surgeon. Directed to proceed to Marietta and Philadelphia and New York, on special temporary duty.

Amesse, J. W., P. A. surgeon, granted 2 months' leave of absence from Nov. 1, 1909.

Long, J. D., P. A. surgeon, relieved from duty at San Francisco, and directed to proceed to Washington, D. C., and report to the Director of the Hygienic Laboratory for duty, stopping en route at Columbia, S. C.

Foster, M. H., P. A. surgeon, granted 15 days' leave of absence en route home.

Wollenberg, R. A. C., asst.-surgeon, directed to report to the Medical Officer in temporary charge at Detroit, for temporary duty.

Simpson, Friench, asst.-surgeon, relieved from duty on the Revenue Cutter *Perry*, and directed to proceed to San Francisco, and report to Surgeon Rupert Blue for duty.

Hasseltine, H. E., asst.-surgeon, granted 7 days' leave of absence from Oct. 25, 1909, under paragraph 191, Service Regulations.

Bailey, C. A., acting asst.-surgeon, granted 3 days' leave of absence from Oct. 19, 1909.

Jackson, James M., Jr., acting asst.-surgeon, granted 20 days' leave of absence from November 8, 1909.

Miranda, R. U. Lange, acting asst.-surgeon, granted 1 month's leave of absence from Oct. 8, 1909, without pay.

Spohn, A. E., acting asst.-surgeon, leave of absence granted for 2 months from Sept. 1, 1909, without pay, amended to read 1 month.

Thompson, W. R. P., acting asst.-surgeon, granted 10 days' leave of absence from Nov. 1, 1909.

BOARD CONVENED

Board of medical officers convened to meet at the Marine Hospital, Stapleton, N. Y., Nov. 8, 1909, for the purpose of making a physical examination of two officers of the Revenue Cutter Service. Detail for the board: Passed Assistant Surgeon C. W. Vogel, chairman; Passed Assistant Surgeon C. L. Collins, recorder.

Health Reports

The following have been reported to the Marine-Hospital Service, during the week ended Oct. 29, 1909:

SMALLPOX—UNITED STATES

California, general, Aug. 1-31, 2 deaths.
Connecticut: Bridgeport, Sept. 26-Oct. 2, 1 case.
Georgia: Macon, Oct. 2-8, 3 cases.
Illinois: Chicago, Oct. 7-16, 1 case.
Indiana: Allen County, Aug. 1-31, 28 cases; St. Joseph County, 1 case.
Massachusetts: Boston, Oct. 9-16, 1 case.
Montana: Butte, Oct. 1-14, 12 cases.
New York: Buffalo, Oct. 9, 1 case.
North Carolina: Nine Counties, Aug. 1-31, 37 cases.
Ohio: Dayton, Oct. 10-16, 1 case; Springfield, Oct. 9-16, 9 cases.
Washington: Seattle, Aug. 1-31, 6 cases.

SMALLPOX—FOREIGN

Austria: Bohemia, Sept.26-Oct. 2, 2 cases.
Brazil: Bahia, Aug. 28-Sept. 24, 44 cases, 28 deaths.
Egypt: Cairo, Sept. 10-16, 1 case, 2 deaths.
France: Paris, Sept. 29-Oct. 2, 1 case.
Java: Batavia, Aug. 29-Sept. 11, 5 cases.
Malta: Valetta, Sept. 12-18, 1 case.
Mexico: Mexico, Oct. 9, 3 cases.
Portugal: Lisbon, Sept. 27-Oct. 2, 5 cases.
Russia: Riga, Sept. 27-Oct. 2, 3 cases; St. Petersburg, Sept. 12-15, 21 cases, 11 deaths.
Spain: Almeira, June 1-30, 3 deaths; Barcelona, Sept. 28-Oct. 4, 3 deaths; Huelva, Aug. 1-31, 8 deaths; Vigo, Sept. 26-Oct. 2, 1 death.

CHOLERA

China: Amoy, Aug. 29-Sept. 4, 17 deaths; Hankow, Sept. 5-11, 5 cases; Shanghai, present among natives; Swatow, Aug. 28, 3 cases, 2 deaths, on S. S. *Waising*.
India: Bombay, Sept. 15-21, 1 death; Calcutta, Sept. 5-11, 9 deaths; Rangoon, 3 deaths.
Korea: Seoul, to Sept. 25, 400 cases.
Manchuria: Dalny, Sept. 5-18, 18 cases, 14 deaths.
Netherlands: Lopik, Oct. 2, 1 case; Hansweert, 1 case.
Philippine Islands, Sept. 5-11, 20 cases, 13 deaths; Provinces, 314 cases, 248 deaths.
Sumatra: Djambi, Aug. 10-20, 6 cases.

YELLOW FEVER

Brazil: Bahia, Aug. 28-Sept. 17, 6 cases, 3 deaths.

PLAGUE

Brazil: Bahia, Aug. 29-Sept. 24, 11 cases, 8 deaths.
China: Amoy, Aug. 29-Sept. 4, 47 deaths.
India, general, Sept. 5-11, 2,781 cases, 2,096 deaths; Madras, Sept. 11-17, 2 deaths; Calcutta, Sept. 5-11, 5 deaths; Rangoon, 10 deaths.
Japan: Kobe, Sept. 18-25, 2 cases, 2 deaths.
Mauritius, Aug. 6-12, 3 cases, 2 deaths.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Regulation of Medical Charity in Chicago

The physician has always been a liberal dispenser of charity. Consciously or unconsciously, it has been recognized both in the profession and by the public that any one sick or suffering could have the gratuitous services of a physician at any time and in almost any place. Not only is this true of the physician on the staff of the city dispensary or clinic, but it is equally well-known that every physician makes calls for which he knows he will receive no compensation, and sends bills which he knows will never be paid. The time will never come when any one actually needing the services of a physician will be prevented from receiving aid on account of his inability to pay for such services.

In our great cities, however, there has developed in the last few decades a systematic abuse of the charities of the medical profession which has reached startling proportions. Free dispensaries and clinics have been established everywhere without regard to their need or justification. Many of these clinics are crowded daily with patients who are given professional services, often by leading members of the profession, without any effort to discriminate between those deserving of such charity and those well able to pay for medical services. The free dispensary question is essentially peculiar to the large city and has been repeatedly discussed from various points of view in the last few years.

The lack of reliable data on this question being apparent, the Chicago Medical Society, in 1906, appointed a "Committee on the Abuse of Medical Charities," with instructions to investigate the entire matter and report the facts as they existed in Chicago, together with any recommendations for improving the conditions. After a year's investigation, the committee reported that there were in Chicago at that time (June, 1907) fifty-five free dispensaries, sixteen of which were connected with hospitals, nine with medical colleges, while thirty had no connection with any charitable or teaching institution. Twenty-seven were used for some form of clinical instruction, seven were privately owned and operated. In six dispensaries, medicine and treatment were furnished free; in eighteen, a charge was made to cover the cost of medicine, and in twenty-three as much money was collected from the applicant as could be obtained. Only twenty-six made any claim to investigation of the ability of the applicant to pay, while in all except four of the fifty-five dispensaries the only attempt at investigation consisted of a few questions put to the applicant by the physician in charge. One dispensary referred cases of doubtful merit to the Chicago Bureau of Charities for investigation, while three employed a nurse or a clerk to look up suspicious cases and ascertain whether or not they were worthy. Twenty-six of these dispensaries were run in such a slipshod fashion that it was impossible to determine the number of patients treated. The remaining twenty-nine dispensaries treated during the previous year 223,110 persons. Sixteen dispensaries, which kept a record of the number of times each patient received treatment, has treated 93,806 persons and had given them treatment 246,140 times. The committee concluded from the data secured that at least twenty-five per cent. of the population of Chicago were receiving free medical services in some form, while only one-half of one per cent. of the population were the recipients of other forms of charity, in other words, the charitable burden imposed on the medical profession was fifty times greater than that imposed on any other class of society.

This report aroused much interest and led to further investigation. The committee reported from time to time and finally, in March, 1909, submitted a carefully prepared report summarizing its recommendations. The following premises were agreed on as starting points for the discussion:

1. Charity is a cardinal virtue of medicine. No matter how heavy the burden of true medical charity may fall on the

medical profession, it is willing to carry the burden, but the medical profession has come to a recognition of the evils which have crept into the work of charitable institutions and is bent on removing these evils.

2. The practice of medicine is based on the confidence of the people. Whatever means we shall select as the best to eradicate these evils, it is necessary that they must find public confidence and approval.

One of the evils which the committee recognized was the infringement by undeserving persons on privileges established for the deserving poor, thus working an injustice to the poor themselves, to the charitable institutions and organizations, and to the physicians, as well as to the profession at large, whose economic rights have been interfered with by unjust administration of medical charity. The progress of medical science as well as the interests of medical colleges and of the general public are all concerned in a just and adequate administration of public charities. The administration of medical charities is closely related to many serious economic and moral questions. One proposition must, in justice to all concerned, be given weight over all others, namely, the improvement of efficiency in service. The abuse of the free facilities for treatment provided for the deserving poor is the greatest evil connected with the problem and its removal is consequently the first step in a general reform of the administration of medical charities. The committee considered that the correction of this evil was only possible by placing the different interests involved on a sound and ethical basis. The interests concerned are generally benevolent but are often conflicting and antagonistic. The organization of medical charities must, therefore, rest on the same principle as that on which modern organization of general charities is based, namely, investigation of those to whom charity is given.

The committee therefore sought for advice and cooperation from the organized charities of Chicago and the following plan of administration was formulated: Each institution, dispensary or hospital shall receive each applicant for free medical service who presents himself as if in good faith. The following facts regarding each applicant shall be secured by the institution before any treatment is given: name, address, sex, nationality, married or single, widowed or separated, names and ages of children, amount received in wages by each, number in family, number of rooms occupied and rent paid. The applicant is to be given the first treatment, but is to be told that his claims for gratuitous service will be investigated. Cards bearing a duplicate record of each applicant will be sent each day to the bureau of investigation of the local charity organization, which will investigate each case and report to the institution to which application for relief was made. Emergency operations shall be performed at once if necessary. Operations of election shall not be performed until the investigating bureau has reported.

This plan was the result of conference and cooperation between committees from Chicago Medical Society, Chicago Homeopathic Society, Chicago Eclectic Society, Chicago Physiomedical Society, Chicago Bureau of Charities, Chicago Relief and Aid Society, Jewish Relief and Aid Society, Children's Relief and Aid Society, and other miscellaneous charitable bodies. The proposed plan was submitted to the general membership of the Chicago Medical Society by a general referendum at the annual election, held June 15, 1909, and was adopted by an overwhelming majority. The referendum submitted declared that it was the fixed purpose of the Chicago Medical Society to inaugurate plans whereby every patient treated in a free institution by a member of the Chicago Medical Society should undergo an investigation as to his or her economic right to free services and that, following the adoption of this plan by the society, it should be a matter of society ethics for all members of the society serving on staffs of charitable medical institutions to conform to and enforce the accepted method of administration. The money needed for carrying out this plan is to be subscribed from the general public and from the members of the society and profession. The members of the society pledged themselves individually to a full financial support of the proposed plan, stating, however, that they considered that the burden of administration expense ought, eventually to be assumed by the general public, inasmuch as the medical profession is contributing its services. The proposed method was widely discussed, both in the *Bulletin*, at the general meetings of the society and in the branches, and resulted in the endorsement of the plan by the general society membership. It consequently becomes obligatory on any dispensary with which a member of the Chicago Medical Society is connected to report the names of all applicants for relief to the investigating bureau of the local charitable organization for investigation and report.

The unique features in this work are the careful preliminary investigation of existing dispensaries as a foundation for subsequent consideration; the free discussion and hearty cooperation between the medical profession and the existing charitable organizations; the length of time that was devoted to careful consideration before formulating the report, and the final decision to turn the entire charitable aspect of the problem over to the properly constituted charitable authorities, the medical profession practically agreeing to treat free of charge all persons whom the investigating bureau of the local charitable organization reports as worthy. The result, aside from the economic features of the case, has been a marked increase of cooperation and mutual understanding between the organized medical profession and the organized charities of the city. This result alone is well worth all the work which was performed. The administration of medical relief has been put on a sound economic and moral basis which cannot but improve local conditions. The experience of the Chicago Medical Society in this particular is most interesting and is worthy of the careful study of other medical organizations in large cities.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Third Month—Second Weekly Meeting

SCARLET FEVER, SCARLATINA

PERIOD OF INCUBATION.

MODE OF TRANSMISSION: Patient, clothing, toys, domestic animals, food, air, third person. Duration of infection.

BACTERIOLOGY.

PATHOLOGY: Changes in skin and mucous membranes. Changes in other regions.

SYMPTOMS: Invasion, duration, symptoms. Eruption, character, variations, desquamation. Clinical forms, (a) mild, (b) moderate, (c) severe, (d) malignant or cerebral cases.

COMPLICATIONS AND SEQUELÆ: Throat, (a) erythematous, (b) membranous, (c) gangrenous angina. Lymph glands and cellulitis of neck. Ears, kidneys, joints, respiratory and digestive systems.

DIAGNOSIS: Onset, vomiting, fever, angina, tongue, rash. Differentiate from diphtheria, measles and rubella. Differentiate rash from erythema, scarlatinoids of pyemia, septicemia, typhoid, diphtheria, antitoxin, quinin and other drugs.

PROPHYLAXIS.

Action of Roentgen Rays on the Thymus.—Aubertin and Bordet report in the *Zentralblatt für innere Medizin*, October 2, a series of researches on young cats and rabbits to determine the effect of Roentgen exposures on the thymus. There was intense destruction of the lymphoid tissue, and the thymus became gradually transformed into what seemed to be ordinary connective tissue, the gland thus losing its lymphoid character completely. The changes observed are not specific, but have seldom if ever been observed in the thymus. Hassall's corpuscles became much hypertrophied, confirming the assumption that the growth of these corpuscles is connected with the retrograde metamorphosis of the thymus.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARKANSAS: Regular, Little Rock, November 9. Sec., Dr. F. T. Murphy, Brinkley.
CONNECTICUT: Homeopathic, New Haven, November 9. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.
CONNECTICUT: Regular, City Hall, New Haven, November 9-10. Sec., Dr. Charles A. Tuttle, 196 York St.
FLORIDA: Jacksonville, November 10-11. Sec., Dr. J. D. Fernandez.
MAINE: Portland, November 9-10. Sec., Dr. Frank W. Searle, 806 Congress St.
MASSACHUSETTS: State House, Boston, November 9-11. Sec., Dr. E. B. Harvey, Room 159, State House.
NEBRASKA: Senate Chamber, State House, Lincoln, November 10-11. Sec., Dr. E. Arthur Carr, 141 South Twelfth St.
TEXAS: Levy Bldg., Greenville, November 9-11. Sec., Dr. M. E. Daniel, Honey Grove.
WEST VIRGINIA: Chancellor Hotel, Parkersburg, November 9-11. Sec., Dr. H. A. Barbee, Point Pleasant.

Michigan Reciprocity Report

Dr. B. D. Harison, secretary of the Michigan Board of Registration in Medicine, sends us a list of those licensed by that board through reciprocity and under exemption clauses, since January, 1909. The following colleges were represented:

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with.
Georgetown University	(1906)	Dist. Colum.
Yale University	(1908)	New York
Rush Medical College	(2, 1908)	Illinois
Northwestern University Medical School	(1907) (1908)	Illinois
Northwestern Univ. Woman's Med. School	(1889)	Illinois
Chicago College of Medicine and Surgery	(1907) (1908)	Illinois
Dearborn Medical College	(1907)	Illinois
Indiana Medical College	(1906)	Indiana
College of Physicians and Surgeons, Baltimore	(1896)	Illinois
University of Maryland	(1905)	Maryland
Tufts College Medical School	(1905)	Maine
Univ. of Michigan (R)	(1886) (1887) Ohio; (1892)	Wisconsin
University of Minnesota	(1899)	Minnesota
St. Louis Medical College	(1874)	Iowa
Albany Medical College	(1906)	New York
Long Island College Hospital	(1891)	Wisconsin
Cleveland Homeo. Med. Coll.	(1871) Indiana; (1903)	Ohio
Eclectic Medical Institute, Cincinnati	(1899)	Ohio
University of Vermont	(1891)	Wisconsin
Laval University, Quebec	(1898)	Vermont

LICENSED UNDER EXEMPTION CLAUSES

College	Year of Grad.
American Medical Missionary College	(1906) (1907)
Detroit College of Medicine	(1906)
Detroit Homeopathic Medical College	(2, 1909)
Trinity Medical College, Ontario	(1899)

Indiana July Report

Dr. W. T. Gott, secretary of the Board of Medical Registration and Examination, reports the written examination held at Indianapolis, July 13-15, 1909. The number of subjects examined in was 16; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 104, of whom 101 passed and 3 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Denver and Gross College of Medicine	(1905)	89
Chicago College of Medicine and Surgery	(1909)	84
Hering Medical College	(1909)	89
Illinois Medical College	(1908) 88; (1909)	81
Bennett Medical College	(1889)	86
Northwestern University Medical School	(1909) 87, 88,	92
College of Phys. and Surg., Chicago	(1899) 80; (1909)	85
National Medical University, Chicago	(1906)	77
Indiana Medical College	(1906)	78
Indiana University	(1909) 78, 78, 82, 83, 83, 83, 83, 83, 83, 84, 84, 84, 84, 85, 86, 86, 87, 87, 87, 87, 87, 87, 87, 87, 87, 88, 88, 88, 88, 88, 89, 89, 89, 89, 89, 89, 89, 89, 89, 90, 90, 90, 90, 90, 90, 90, 90, 91, 91, 91, 92, 93, 94.	
Physio-Medical College of Indiana	(1909) 75, 78, 87, 87	
University of Louisiana	(1908) 83, 85; (1909) 75, 76, 84, 85, 86, 87, 89, 89, 89, 90, 94.	
Louisville and Hospital Medical College	(1908)	76
Kentucky School of Medicine	(1907)	76
Johns Hopkins University	(1908) 92; (1909)	87
Southwestern Homeopathic Med. Coll., Louisville	(1897)	81
University of Maryland	(1908) 84,	86
University of Michigan, College of Medicine	(1908)	91
Kansas City Hahnemann Medical College	(1908)	80
St. Louis College of Phys. and Surg.	(1900) 81; (1909)	91
Washington University, St. Louis	(1908)	83
University and Bellevue Hospital Medical College	(1906)	91
University of Pennsylvania	(1904) 89; (1909)	92
Jefferson Medical College	(1908)	88

FAILED

Jenner Medical College	(1907)	66
University of Louisville	(1908)	68
St. Louis College of Physicians and Surgeons	(1907)	58

Marriages

GEORGE PARKE, M.D., to Miss Elsie Bennett, both of Sylvan, Wis., September 22.

FRANCIS M. PERKINS, M.D., to Mrs. Sarah T. Addis, both of Philadelphia, October 19.

JOSEPH FLEITAS, M.D., to Miss Lucretia Allison, both of Philadelphia, October 20.

WILLIAM B. COX, M.D., to Miss Leila Da Vega, both of Chester, S. C., October 13.

EMIL OTTO FICKE, M.D., to Miss Lillian M. Heede, both of Davenport, Iowa, October 21.

WALTER FREEMAN BROWN, M.D., to Miss Mabelle Brown, both of Philadelphia, October 22.

JULIUS PAUL LAUER, M.D., to Miss Helen McKenzie Brown, both of Philadelphia, October 12.

CUTHBERT THOMPSON, M.D., to Miss Julia Morsel Mengel, both of Louisville, Ky., October 12.

DANIEL WEBSTER ZIRKER, M.D., Merced, Cal., to Miss P. O. Smith, of San Francisco, October 12.

WILLIAM W. LEAKE, M.D., New Orleans, La., to Miss Virginia de Neveu, of Chicago, November 3.

SILAS HALL, M.D., Vincennes, Ind., to Mrs. Anna A. Gantz, of Carnegie, Pa., at Vincennes, October 21.

GEORGE CLARENCE PARCHER, M.D., Saugus, Mass., to Miss Isabelle Graham, of Stoneham, Mass., recently.

JOHN DAVIS CHAMBERS, M.D., Portland, Ore., to Miss LeClaire Gilmore, of Rock Island, Ill., October 20.

THOMAS PAUL DOOLE, M.D., Fredonia, Texas, to Miss Mamie Frances Melton, of Fort Worth, Texas, October 25.

SAMUEL EUGENE HOLTZCLAW, M.D., Greer, S. C., to Miss Bessie Amelia Willis, at Leetown, W. Va., October 14.

JOSEPH ENNALLS MUSE, M.D., Baltimore, Md., to Miss Laura Manulita Travers, of Cambridge, Md., November 3.

MALVERN BRYAN CLOPTON, M.D., St. Louis, Mo., to Miss Lily Lambert Walker, of New York City, October 27.

STEPHEN N. JORDAN, M.D., Sour Lake, Texas, to Miss Zelma V. Sharman, of Liberty, Texas, in Houston, Texas, October 14.

RALPH WALDO NEWTON, M.D., M.R.C. U. S. Army, Fort Revere, Mass., to Miss Ethel Blanche McCrillis, of Hyde Park, Mass., October 4.

Deaths

George Eastman Stubbs, M.D. Harvard Medical School, Boston, 1863; one of the founders of the Medico-Chirurgical College of Philadelphia; for several years a member of the board of trustees, treasurer, and professor of anatomy, clinical surgery, and surgical pathology in that institution; for twenty years surgeon to the Charity Hospital, Philadelphia, and for several years an officer of the Philadelphia Board of Health; assistant surgeon U. S. Army, and brevet captain U. S. V. during the Civil War; died at his home in Merion, Pa., October 21, from cerebral hemorrhage, aged 69.

Frank Charles Bourscheidt, M.D. Rush Medical College, Chicago, 1887; one of the founders of the Illinois State Pharmaceutical Association in 1881, and its first president; from 1880 to 1890, a member of the committee on revision of the United States Pharmacopeia; for one year president and for two years secretary of the Peoria Medical Society; gynecologist to St. Francis Hospital; and at one time commissioner of health of the city; died at his home, October 16, from carcinoma of the stomach, aged 58.

Edward Grove, M.D. Cleveland University of Medicine and Surgery, 1897; of San Diego, Cal.; a member of the Medical Society of the State of California; was instantly killed while returning at night from making a professional call, October 19, by the plunging of his automobile over an embankment, near Foster, aged 36. The San Diego County Medical Society, at its meeting October 20, adopted resolutions expressing its high esteem for Dr. Grove, and extending its sympathy to the bereaved wife, family and friends.

Samuel Sigmund Kahn, M.D. College of Physicians and Surgeons, New York City, 1877; of San Francisco; a member of the American Medical Association; for a short time a member of the Medical Corps of the Army; city physician of San Francisco from 1882 to 1890; a director of and obstetrician to Mount Zion Hospital; who had been ill with intestinal amebiasis for several weeks and was believed to be convalescent; died at a hotel in Coronado, Cal., October 18, from angina pectoris, aged 53.

Robert Amasa Stephenson, M.D. Jefferson Medical College, Philadelphia, 1863; a member of the American Medical Association; who entered the army as a medical cadet in 1861, and later served as assistant surgeon of the Sixth Ohio Volunteer Infantry, and as brigade surgeon, and was severely wounded at Atlanta; a member of the local board of U. S. pension examining surgeons; auditor of Adams county, Ohio, in 1899; died in his office in Manchester, October 22, from cerebral hemorrhage, aged 71.

Irwin Hamilton McConnell, M.D. Atlantic Medical College, Baltimore, 1904; for a time surgeon for the Harper's Ferry and Hagerstown division of the Baltimore and Ohio Railroad; prominent as an athlete; physical director of the Y. M. C. A. of Washington, D. C.; died at his home in that city, October 18, from nephritis, aged 27.

William H. Twiford, M.D. Starling Medical College, Columbus, Ohio, 1851; surgeon of the Twenty-seventh Indiana Volunteer Infantry, and later chief surgeon of the First Division, Twentieth Army Corps during the Civil War; representative in the Minnesota legislature in 1867; died at his home in Owatonna, Minn., recently, aged 88.

James Pinckney Booth, M.D. Texas Medical College, Galveston, 1871; a member of the American Medical Association; professor of state medicine and hygiene in the College of Physicians and Surgeons, Los Angeles; and formerly editor of the *Los Angeles Medical Journal*; died at his home in Los Angeles, October 23, aged 62.

James M. Hoyle, M.D. Berkshire Medical College, Pittsfield, Mass., 1857; a surgeon in the Confederate Service during the Civil War; for several terms a member of the board of supervisors of Pontotoc county, Miss., and representative from Lee county in the legislature, died at his home in Tupelo, July 14, from asthma.

James Fulton, M.D. Trinity Medical College, Toronto, 1876; of St. Thomas, Ont.; local surgeon of the Michigan Central Railroad; president of the Amasa Wood Hospital; and chairman of the Board of Health; died September 15 in Victoria Hospital, London, Ont., from shock following an operation, aged 58.

Thomas J. Boykin, M.D. University of Pennsylvania, Philadelphia, 1852; a surgeon in the Confederate Service during the Civil War; for many years a resident and wholesale druggist of Baltimore; died at the home of his daughter in Chicago, October 22, from senile debility, aged 82.

James Henry Boylan, M.D. Wisconsin College of Physicians and Surgeons, Milwaukee, 1903; a member of the Nebraska State Medical Association; district surgeon at Eddyville for the Union Pacific Railroad; died in Milwaukee, October 12, after an operation on the stomach, aged 44.

Addison Atterbury Bell, M.D. Jefferson Medical College, Philadelphia, 1849; formerly a member of the Medical Association of Georgia; a surgeon in the Confederate Service during the Civil War; died at his home in Madison, Ga., August 7, from cerebral hemorrhage, aged 87.

James Wells Herbert, M.D. University of Maryland, Baltimore, 1871; apothecary at the Marine Barracks, Washington, D. C., for several years; and prior to that time surgeon to the U. S. S. *Lancaster*; died at his home in Washington, September 5, from paresis, aged 59.

Darius F. Boughton, M.D. University of Michigan, Ann Arbor, 1870; of Chicago; from 1872 to 1881 a member of the staff of the State Hospital for the Insane, Mendota, Wis.; died in Wilmette, Ill., July 30, from carcinoma of the rectum, aged 65.

George A. Engert, M.D. University of Pennsylvania, Philadelphia, 1893; ad eundem, University of Vienna, Austria, 1895; a member of the Medical Society of the State of New York; died at his home in Rochester, October 21, aged 42.

John Kinkead, M.D. Bellevue Hospital Medical College, New York City, 1872; formerly of Lexington, Ky.; died at his home in Poughkeepsie, N. Y., where he had practiced for thirty-five years, June 28, from heart disease, aged 60.

Robert Gibson, M.D. Missouri Medical College, St. Louis, 1875; for forty years a practitioner and medical missionary of Alton, Ill.; died at his home in Siloam Springs, Ark., October 21, from cerebral hemorrhage, aged 71.

William Cooke Steedman, M.D. Louisville (Ky.) Medical College, 1899; of Lagrange, Ky.; a member of the Kentucky State Medical Society; died at the home of his brother in Louisville, October 21, from paralysis, aged 46.

George J. White, M.D. University of Michigan, Ann Arbor, 1880; local surgeon of the Chicago and Grand Trunk Railroad in Jackson, Mich.; died at his home in that city, October 19, from cerebral hemorrhage, aged 54.

James William Ryder, M.D. Dartmouth Medical School, Hanover, N. H., 1896; a member of the American Medical Association; died at his home in Boston, October 22, after a surgical operation, aged 41.

Raphael Walter Meyer, M.D. St. Louis College of Physicians and Surgeons, 1902; formerly of Dubuque and Anamosa, Iowa; died at Sherrill's Mound, Iowa, October 17, after a lingering illness, aged 36.

Thomas S. Gant, M.D. Washington University, St. Louis, 1883; at one time local surgeon for the Missouri Pacific Railroad at Auburn, Neb.; died in the city hospital, Nebraska City, October 20, aged 52.

Peyton Burdette Parker, M.D. Kansas City (Mo.) Medical College, 1890; of Westport, Kansas City, Mo.; died in the General Hospital, Kansas City, October 17, from cerebral hemorrhage, aged 44.

Frank Hereford, M.D. Missouri Medical College, St. Louis, 1877; a member of the Medical Society of the State of California; died at his home in Alpine, September 21, aged 55.

J. Edwin Corlis, M.D. Louisville (Ky.) Medical College, 1893; of Portageville, Mo.; was accidentally shot and killed while hunting near that place, October 22, aged 39.

David Grant, M.D. New York University, New York City, 1888; of Providence, R. I.; died at the home of his brother in Malone, N. Y., October 13, from paralysis, aged 45.

Dane Perry, M.D. Keokuk (Iowa) Medical College, 1896; of Bundy, Wis.; died in St. Mary's Hospital, Rhinelander, Wis., October 20, from typhoid fever, aged 52.

Harry Loftus, M.D. John A. Creighton Medical College, Omaha, 1908; formerly of Omaha, Neb.; died at his home in Escanaba, Mich., October 20, aged 28.

John Marshall Eaton, M.D. Harvard Medical School, Boston, 1856; a surgeon of volunteers during the Civil War; died at his home in Harvard, Mass., October 21, aged 77.

James Bascom Jordan, M.D. University of Pennsylvania, Philadelphia, 1873; died at his home in Newbern, Va., October 19, in an epileptic convulsion.

James Clifford Goodwin, M.D. Halifax, N. S., Medical College, 1906; died at his home in Meteghan, N. S., February 17, from lobar pneumonia, aged 29.

Lyman Condit Olds (license, Md.); died at his home in West Baltimore, October 21, from injuries received in a fall from a car, aged 80.

John B. Anderson, M.D. Jefferson Medical College, Philadelphia, 1848; died at his home, Sunnyside, Hopeful, Va., October 16, aged 83.

Gustavus A. H. Wendlandt, M.D. Missouri Medical College, St. Louis, 1873; died at his home in Princeton, Wis., October 16, aged 66.

John Goddard, Jr., M.D. Pulte Medical College, Cincinnati, 1897; died in Shanghai, China, September 9, from cholera, aged 37.

Thomas J. Davis, M.D. St. Joseph (Mo.) Hospital Medical College, 1883; died at his home in Graham, Mo., October 16, aged 57.

George Hunt, M.D. Boston (Mass.) University, 1881; died at his home in Bridgewater, Mass., October 24, aged 54.

Sir **Thomas Smith, K.C.V.O.; F.R.C.S.;** honorable sergeant-surgeon to the king; consulting surgeon to St. Bartholomew's Hospital and the Hospital for Sick Children; formerly vice-president of the Royal College of Surgeons of England; for forty-eight years a member of the staff of the Hospital for Sick Children, Great Ormond, street, London; assistant surgeon and surgeon of St. Bartholomew's Hospital, and lecturer on anatomy, and later appointed consulting surgeon and governor of the hospital; secretary of the surgical section of the International Medical Congress in London in 1881; died at his home in London, October 1, aged 76.

Book Notices

MYOMATA OF THE UTERUS. By Howard A. Kelly, Professor of Gynecology in the Johns Hopkins University, and Thomas S. Cullen, Associate Professor of Gynecology, Johns Hopkins University. Cloth. Pp. 723, with illustrations. Price, $7.50. Philadelphia: W. B. Saunders Co., 1909.

The aim of the authors in this work is to place before the medical profession the subject of myomas of the uterus in an adequate but not too voluminous manner. Consequently the work appears in one volume, beautifully illustrated and attractive in every way.

From carefully preserved specimens and histories, dating from 1889 to 1909, they have been able to furnish in the work a complete account of the operations, pathology and results in 1,674 cases. These cases are taken from Johns Hopkins University and the private clinics of the authors. The history of the surgical procedure appropriate to uterine myomas, has not been considered, but the operations in the respective cases show conclusively the advance in this line of surgery.

Much stress has been laid on the errors which have occurred, and which will be of great interest to surgeons generally.

Statistics show a gradually lessened mortality, and the authors assert that during the past two and one-half years this mortality has been less than 1 per cent. Heredity is said to play no part in the causation of these tumors, but that they are associated with malignancy is proven.

The chapters on differential diagnosis, abdominal and vaginal hysterectomies contain reports of cases comprising interesting and valuable data.

This work will be of great assistance to those doing pelvic surgery, and the authors are to be congratulated on the success of their undertaking, which must have taken an immense amount of time, labor and expense.

QUAIN'S ELEMENTS OF ANATOMY. Edited by E. A. Schäfer, Johnson Symington and T. H. Bryce, Edition 11. Vol. III, Part 1: Neurology. By E. A. Schäfer and J. Symington. Cloth. Pp. 421, with illustrations. Price, $4.50. New York: Longmans, Green & Co., 1908.

Quain's Anatomy is so well recognized as a standard English text-book that in recording the appearance of a new volume it is necessary only to point out a few new features. Part 1 Volume III of the eleventh edition embraces the general structure and mode of development of the elements of the nervous system and the special structure of the spinal cord and brain. Part 2 of Volume III is to contain the descriptive anatomy of the nerves and sense organs, the two parts together forming a complete text-book on neurology, indispensable to all those who wish to keep abreast of modern work in nervous anatomy. The volume has been edited, and to a large degree rewritten by Professor Schäfer of Edinburgh and Professor Johnson Symington of Queen's College, Belfast. The work is divided into three main parts: First, a discussion of the general structure and development of the nervous system; second, a consideration of the structural elements of the nervous system; and, third, a description of the cerebral spinal axis, the latter occupying the greater part of the book. The description and illustrations of gross anatomy are much the same as in former editions, a few new illustrations being added. The principal additions are in the form of new illustrations on microscopic anatomy, most of which being from original drawings contributed by Professor Ramon y Cajal. The first two chapters have been rewritten and supplemented, the number of illustrations being largely increased. The reproduction of Professor Ramon y Cajal's drawings on pages 17, 19, 23, 26 and 31 are particularly striking. The neuron theory of Waldeyer is discussed in the light of recent histological investigations.

THE MEDICAL DIRECTORY OF NEW YORK, NEW JERSEY AND CONNECTICUT. Volume XI. Cloth. Pp. 855. Price, $2.50. Published by The Medical Society of the State of New York, 1909.

The eleventh volume of the Medical Directory of New York, New Jersey and Connecticut, published by the Medical Society of the State of New York for 1909, has just been issued. The book is of the same size, style and general arrangement as preceding editions. Insertion of names is restricted to physicians registered in accordance with the laws in the three states covered. The different portions of the book are printed on paper of different colors, making reference exceedingly easy, the directory for Manhattan and the Bronx being on white paper, that for Brooklyn on yellow, the remainder of the state of New York on white, and the alphabetical index on green. The same arrangement is followed in the other states, making it possible to select instantly the portion of the book which one desires to consult. Members in county and state societies are designated by a star, membership in other medical organizations being designated by appropriate abbreviations. Particularly noticeable is the new type used in this edition. A complete roster of the Medical Society of the State of New York and a complete list of hospitals, dispensaries, benevolent institutions, public health organizations, etc., are added, forming a complete medical directory for the entire state. The matter for New Jersey and Connecticut is not so exhaustive, being limited to the lists of physicians for each state, arranged alphabetically by postoffices. Through the efforts of the state society, consequent on the publication of this directory, the registration of the medical profession in New York State has been given careful supervision, a most important work which might well be undertaken in other states. The directory is of value to all wishing information regarding the medical profession of the states and particularly to physicians and members of the organization in New York.

EXPERIMENTAL PHARMACOLOGY. A Laboratory Guide for the Study of the Physiologic Action of Drugs. By Charles Wilson Greene Ph.D., Professor of Physiology and Pharmacology, University of Missouri. Edition 3, with 37 illustrations. Cloth. Pp. 76. Price, $1. Philadelphia: P. Blakiston's Son & Co., 1909.

This revised third edition presents a text-book for conducting experiments in the pharmacologic laboratory, which gives explicit direction suitable to the needs of the student. The student is in the main left to make his own deduction from the experiments. Importance of knowledge of experimental pharmacology as a foundation for rational therapeutics can not be overestimated. The volume before us is well adapted to afford the student the means of gaining a personal acquaintance with this subject.

PHYSIOLOGY AND PATHOLOGY OF THE URINE. By J. Dixon Mann, M.D., F.R.C.P., Physician to the Salford Royal Hospital. Edition 2. Cloth. Pp. 324, with illustrations. Price, $3.25. Philadelphia: J. B. Lippincott Co.

In this second edition of Dr. Mann's book the more recent advances in physiologic chemistry, along both theoretical and practical lines, are embodied, with the result that the volume constitutes not only an excellent treatise on the physiologic and pathologic significance of the various urinary constituents, but an extremely practical handbook of urine analysis as well. It is true that the book contains many analytical methods beyond the reach of the ordinary practitioner; but the simple methods are given as well so that the book will serve his purposes as well as those of the more advanced investigator.

TUBERCULOSIS; A Preventable and Curable Disease. By S. Adolphus Knopf, M.D., Professor of Phthisiotherapy at the New York Post-Graduate Medical School and Hospital. Cloth. Pp. 394, with illustrations. Price, $2. New York: Moffat, Yard & Co., 1909.

The scope of this work is so broad that it can be read with much profit by everyone, lay and professional, who is in any way concerned with the tuberculosis problem. The layman is told that a proper mode of life and a careful observance of the physician's directions almost invariably result in cure. Physicians are given instructions concerning the diagnosis and treatment of the disease and their duties, not only toward their patients, but to the general public as well. Even the legislator, the employer, the clergyman and the educator are given helpful suggestions as to how they may aid in the eradication of tuberculosis. In fact, the strongest point made by the author is his appeal to the self-love of man. Each one is shown how he can help himself, and how by doing so he will help others. Knopf's personal views are so well known that it is unnecessary to touch on them in a book review. So far as the book itself is concerned, it is worthy of the highest commendation. It is a mine of useful and valuable information. The mechanical work is excellent; the illustrations are numerous, well made and really illustrative.

MEDICAL INSPECTION OF SCHOOLS. By A. H. Hogarth, M.B., B., Ch., D.P.H., County Medical Officer of Health for Buckinghamshire. Cloth. Pp. 360. Price, $2.00. New York: Oxford University Press, 1909.

The author of this work is a reformer who recognizes that an important crisis before his country and who sees in medical inspection of schools one of the steps necessary to secure the future of education and of national development. He accuses Great Britain of physical and intellectual degeneration and indifference to the vital problems of education. His remedy for the evils which he discerns lies in education—an education guided and controlled by the medical man. Medical inspection of schools is more than mere medical advice to school boards, more than inspection of school premises with reference to ventilation and the like, more than the exclusion of infectious diseases. It means that every teacher dealing with the difficult problems of school life may have the advantage of medical guidance; and that every child, normal or abnormal, may have medical inspection to determine his fitness for the work of education. The organization of the work of medical inspection and the duties of the school doctor and of the school nurse are fully discussed. The important question of medical treatment in the schools and the school clinic occupy two interesting chapters. A considerable amount of space is devoted to the discussion of diseases affecting school life. The description of these diseases is necessarily brief and adapted especially to the needs of teachers and educational authorities.

While the book is especially adapted to British conditions, much of it is equally applicable to everywhere. It will undoubtedly stimulate the demand for advanced medical care in the schools and aid in the attainment of modern ideals in education.

TEXT-BOOK OF SURGICAL ANATOMY. By William Francis Campbell, M.D., Professor of Anatomy, Long Island College Hospital. Cloth. Pp. 675, with 319 illustrations. Price, $5.00. Philadelphia: W. B. Saunders Co., 1908.

Campbell has translated isolated and consequently dry anatomical facts into their clinical values and thus gives them a vital interest to the teacher and to the student. The medical student receives the most benefit from that teacher who realizes that, regardless of their purely scientific value, some anatomical facts are of great importance while others are comparatively unimportant. The test of the value of the anatomical fact is its application to clinical conditions. As Campbell says, "A fact that can be utilized is a fact that will survive." There is throughout the volume an earnest effort to present facts as graphically as possible, either by illustrations or by concise tabulation of data. Liberal use is made of photographs, especially in illustrating fractures, the outlines of the bones concerned being drawn on the photograph. The book is copiously illustrated and is well printed on an excellent quality of paper. Especially commendable is the exhaustive index occupying thirty-three pages. A bibliography of the more important works consulted is also given.

THE ETIOLOGY AND NATURE OF CANCEROUS AND OTHER GROWTHS. By W. T. Gibson, A.R.C.S. Cloth. Pp. 123. Price, 6 shillings, net. London: John Bale, Sons & Danielsson, 1909.

Gibson, taking up the various factors apparently instrumental in the causation of cancer, first devotes considerable time to occupational incidence, with a discussion of the probable factors involved in this connection. Following this, he discusses other, more general, factors—inflammation, mechanical trauma, sunlight, *x*-rays, arsenic, etc. As a connecting link between all these miscellaneous factors, he calls attention to the little-accepted neurotic hypothesis of tumor growth, as one that in his view is of value. Finally, he discusses the increased alkalinity of the blood in malignancy, and goes so far as to suggest the induction of some degree of acidosis as a curative measure.

Gibson's arrangement of his material is not particularly well ordered, and his use of that material as a basis for his deductions would appear at times to be rather fine-drawn. These faults are somewhat excused by the prefatory remarks that the little book is in the nature of a preliminary statement, to be followed by a more extensive work. It is to be hoped that this latter will avoid the faults, while preserving the considerable suggestive value, of the present volume.

BIER'S HYPEREMIC TREATMENT. By Willy Meyer, M.D., Professor of Surgery at the New York Post-Graduate Medical School and Hospital, and Prof. Dr. Victor Schmieden, Assistant to Professor Bier, University of Berlin, Germany. Edition 2. Cloth. Pp. 280, with illustrations. Price, $3 net. Philadelphia: W. B. Saunders Co., 1909.

The vogue which hyperemic treatment early obtained made it certain that new editions of this book would soon be demanded. The popularity of this treatment has, of course, been in part due to its being taken up as a new method, but much more because of the good results obtained. When too much is not expected of it, hyperemic treatment is a satisfactory and valuable aid to the physician. It is a compliment to the work of the authors in the first edition that so little change was apparently found necessary in the second, indicating that the first covered the subject thoroughly. The chief additions are some case reports and the bibliography. This last, although only a list of articles, will be of decided service for those who wish to look the subject up further.

OBSTETRICS. Edited by Joseph B. De Lee, A.M., M.D., Professor of Obstetrics, Northwestern University Medical School, with the Collaboration of Herbert M. Stowe, M.D. Vol. V. The Practical Medicine Series. Cloth. Pp. 236, with illustration. Price, $1.25. Chicago: The Year Book Publishing Co., 1909.

This book is more than a series of abstracts from literature for the year, as the editor's personal experience and opinions are given in numerous editorial comments. Scopolamin-morphin anesthesia receives considerable attention, the editor expressing the view that the need of anesthesia in obstetrics is overestimated and stating that he prefers chloroform and ether as more under the control of the attendant. The danger of morphinization of the new-born child is emphasized. Attention is called to the danger from the ordinary methods of resuscitation of asphyxiated children, and suggestions are given by the editor for safer and milder methods.

LEGAL MEDICINE AND TOXICOLOGY. By R. L. Emerson, A.B., M.D., Member of the Massachusetts Medico-Legal Society. Cloth. Pp. 593, with illustrations. Price, $5. New York: D. Appleton & Co., 1909.

This book has been written to fill the need for a single-volume treatise, bringing the subject of legal medicine and toxicology, heretofore little understood and appreciated except by the specialists, closer to the general practitioner. The subjects are treated from a practical point of view with special reference to the needs of a physician or surgeon, who suddenly finds himself confronted with a medicolegal case. As a feature of special interest it includes extracts from the various state laws affecting the practice of medicine, occupying about 200 pages. The section on toxicology is concise and accurate, but of necessity, some subjects have been treated with undesirable brevity. This criticism applies especially to the ptomains, which are treated in a chapter of only three pages.

Society Proceedings

COMING MEETINGS

American Physiological Society, Washington, D. C., December 28-30.
Hawaiian Territorial Medical Society, Honolulu, November 19.
Medical Association of the Southwest, San Antonio, Tex., Nov. 9-11.
Ohio Valley Medical Association, Evansville, Ind., November 10-11.
Southern Medical Association, New Orleans, November 9-11.
Southern Surg. & Gynecological Assn., Hot Springs, Va., Dec. 20-21.

WEST VIRGINIA STATE MEDICAL ASSOCIATION

Forty-Second Annual Session, Held at Elkins, Oct. 6-8, 1909

The President, DR. V. T. CHURCHMAN, in the Chair

The officers elected for the ensuing year were given in THE JOURNAL, Oct. 23, 1909, p. 1409.

Report of Subcommittee on Malpractice Defense

The subcommittee made the following recommendations:

Your committee hereby recommends that the report of the Committee on Medical Defense be printed in circular form and a copy be sent to each of the component local societies, with a request that each of such societies discuss the general plan outlined, vote thereon, and forward the result of such vote to the chairman of the Committee on Medical Defense appointed at the annual session of 1908.

Endorsement of Social Hygiene

A resolution was passed as follows:

Resolved, That the West Virginia State Medical Association gives its hearty endorsement to the West Virginia Society of Social Hygiene in its purpose to promote the cause of social hygiene, and that it will cooperate with its aims.

The New Neurology

DR. C. A. WINGERTER, Wheeling: The science of neurology has long been retarded by the fact that its study has been dominated by thought along anatomic lines. The new neurology forgets the old divisions into diseases of the brain and cord and peripheral nerves, and studies along the lines of function, that is, it thinks physiologically of the nervous system. Under the old method, sheer memorizing of clinical phenomena was necessary. But since the neurone doctrine of Waldeyer has been developed the why and the wherefore of symptoms becomes plain; neurology becomes both simple and scientific. Physiopathology is writing the first splendid chapter of the new neurology, and psychology will write the next. Man is body and spirit, and reacts as a biologic unit to the world about him. He responds to purely physical stimuli, and he reacts likewise to purely psychic stimuli. The study of these purely psychic reactions must be studied by neurologists, and they must learn that psychotherapeutics has come to stay. Man is studying his own mind as never before and is building up a true therapeutic science on the laws of mind.

Oration on Surgery: Early Diagnosis of Gall-Stone Disease

DR. JOHN EDGERTON CANNADAY, Charleston: The average text-book describes terminal stages and dead-house findings to the serious detriment of the patient. There is, relatively speaking, no such thing as a symptomless stone in the gall-bladder. If we inquire carefully into the past history we will find symptoms in abundance. We might as well speak of a symptomless stone in the urinary bladder as in the gall-bladder. Neither gall-stone colic nor jaundice are at all necessary to the diagnosis of gall-stone disease. The sooner we get over this fallacy the better it will be for our patients. The earliest symptoms are often trivial in character and frequently referable to the stomach. There is a feeling of fulness, weight or distention in the epigastrium, which is both peristent and annoying. It is generally relieved by belching, and vomiting gives complete relief. Relief may be given by bending the body forward, by loosening the clothing or by flexing the thigh on the body. At times there is a little pain in the gall-bladder region, at times a respiratory effort is cut short by a sudden stabbing pain. There may be a slight chilliness in the evening with a goose-flesh feeling of the skin. These symptoms have often gone unrecognized. About every fourth woman past middle age and a few less men, have gall-stones. By constant care as regards the diet, hygiene and the use of laxative mineral waters, it is possible for these patients to keep in a condition of comparative comfort. But numerous retrograde changes may take place in the liver, gall-bladder and pancreas. When operative treatment becomes imperative the mortality risk is high and the technic of the work difficult. The early operation is easy, safe and prophylactic. The question of removal of the gall-bladder, or its drainage, is largely dependent on the practice of the individual operator as to whether he is inclined to operate early or late. The man who operates early will be able to cure most of his cases by simple drainage, while the one who waits for terminal stages will find the condition so serious that removal rather than repair will be often an imperative indication.

Gall-Stones in Woman of Sixty-Two

DR. J. E. RADER, Huntington, reported a case of gall-stones in a woman of 62. He removed 4,000 stones from the gall-bladder, varying in size from a millet seed to a hazelnut. The gall-bladder was greatly distended and inflamed. There was no previous history of gall-stones. The patient made an uninterrupted recovery.

Influence of Physical Defects on Personalities, Moral Obliquities and Crime

DR. G. H. BENTON, Chester: Personality represents the status or the expression of the status of the psychosomatic totality of an individual, and while there are as many distinct personalities as there are individuals in the universe, there are two grand divisions into which this subject can be conveniently separated and individuals may be considered under the classification of normal and abnormal personalities. The study of psychology confirms the fact that the mind is the culmination of the physical functioning of the brain through the sense organs, and the mind is composed of two distinct faculties, each embracing numerous subdivisions; the higher, or superior division, beginning with simple recognition or perception and being capable of advancing through all the steps to the highest degrees of mental attainment aggregating degrees of knowledge and wisdom, while the lower or subconscious mental strata is concerned with the recognition of physical functioning independent of thought; presiding over so-called reflex acts and directing physical processes intending to insure the comfort and well-being of the individual independent of reflection, judgment or thought, processes which may or may not be influenced or recognized by the higher functioning mind—"the psychic intellectualis."

In recognition of the two dissimilar results of cerebral functioning, we are conscious of feeling resulting from one process and of thought from another, yet the sensation of feeling and the fact of thought, while exerting much or little influence on each other, are two distinct entities. Through feeling we recognize states of satisfaction and discontent, pleasure and pain, desire and aversion, jealousy, hatred, grief, etc., which are purely the result of internal organization which we do not determine but which we feel without first having thought of them. These conditions exist for the preservation of both the man and the animal, without consciousness, reflection or any other active participation on the part of the individual being necessary; and these mental states, having reached certain intensities, simulate the impulse of an electric current applied to a vivisected animal, producing certain involuntary acts, such as movements, attitudes and gestures, entirely independent of consciousness, and always corresponding comfortably to the designs of nature for the needs and preservation of the individual. This subconscious neurocerebral functioning producing states of feeling, of impulse, of emotion, etc., constitutes the basis of the moral personality. The modification of the impulses arising from the functioning of the central nervous system by the intelligence represents the normal moral personality of any individual. Moral obliquities and crime are only the expression of different degrees of abnormality signifying intensity of feelings, which may be abnormal on the one hand, combined with a condition of relative intellectual paresis or normal feeling states with abnormal intellectual states, states of dissociation, etc. Hereditary defects involving the nervous system are the primary exciting causes of abnormal personalities, including moral obliquities and crime. Next come induced defects, toxic conditions, intrinsic autotoxicosis, extrinsic autotoxic states from alcohol or the infectious fevers, etc., traumatism, and accidental injuries.

Sterilization of Confirmed Criminals and Other Defectives

DR. J. R. BLOSS, Huntington: The defective classes include idiots, imbeciles, majority of the insane and the greater portion of the paupers and criminals, and while a certain amount of improvement can be secured in some of them by various training methods, etc., they can never become fit to propagate a strong and sturdy race. The outcome of propagation among defectives is seen among the suicides, homicides, in the divorce court and in all classes of criminality. At the close of the year 1908 the state of West Virginia had 3,397 persons under its care in the three hospitals for the insane at a cost of over $500,000 per year, the Penitentiary, Reform School and Girl's Industrial Home at a cost of over $500,000 a year. In thirty-eight years from 1870 to 1908 the ratio of insane under the care of the state increased from 1 in 2,135 of the total population to 1 in 583. Heredity is a very important etiologic factor in from 50 to 75 per cent. of patients in state hospitals. In two families, 14 of the 15 children are idiots and imbeciles. My conclusions are: 1. The defective classes are multiplying much more rapidly in proportion than the total population.

2. Stringent marriage laws will not control the increase among defectives. 3. Vasectomy, which does not impair the sexual powers, fulfils every requirement for sterilizing males (other than rapists) and should be provided for by law. 4. Salpingectomy should be provided for among defective females.

What Can the Medical Profession Do to Prevent Crime?

DR. G. D. LIND, Richwood: There are two classes of criminals: first, those of apparently sound minds who have been driven to crime by the force of circumstances alone; second, those of unsound minds, and those who have inherited from ancestors certain degenerate tendencies. The second class is most numerous to-day. The ordinary motives for crime are less numerous to-day. Most crimes are due to degeneration of the race. If the same care were taken in breeding human beings as is taken in breeding animals and plants, there would be less insanity and crime. Statistics show that in the last thirty years homicides and insanity have increased over 200 per cent. in proportion to the population. Insanity is largely the cause of crime; drug intoxication is temporary insanity. The word assassin is derived from the Indian name of the drug cannabis indica which was taken by ancient assassins. When assassination was a political measure, degenerate men were chosen to commit the act. Insanity and tendency to crime are inherited in a great measure; so are genius and all good qualities. The punishment for crime and the treatment of the insane is a matter for the medical and not for the legal profession. Men should not be sentenced for a term of years but for an indefinite period, during which time an effort to educate and reform them should be made. Sterilization of males by vasectomy is to be recommended; castration should be advised only in cases of rapists, or would-be rapists. It has other effects than sterilization. Young men should be taught the dangers of promiscuous intercourse, and married men the results of families too large for the means of support and education.

Prolonged Intubation

DR. T. W. MOORE, Huntington, reported three cases of prolonged intubation. In the first case, a papilloma of the larynx, the tube was worn continuously for six months and the child was thoroughly comfortable for four or five weeks after its expulsion. Tracheotomy was then performed and an attempt to remove the growth was made many times, by tracheoscopy, without success. In the second case the tube was worn, with repeated removals and cleansing, for nine months, and finally when it was thought that the tube could be removed and it was left out for two days, the posterior wall of the larynx was found to be only a thickened membrane and had collapsed. Tracheotomy was performed and the child is still wearing the tracheal tube. In the third case, probably one of diphtheria, followed by edema of the glottis, the tube was worn six months with repeated removals for cleansing. When necessary to retain the tubes they should be frequently removed and cleansed and, if possible, a larger tube used each time. If the obstruction is due to papilloma it is better to do a tracheotomy and allow the child to wait until maturity before removing it, after which the growth rarely recurs, but it nearly always does if removed before maturity.

Other Papers Read

The following papers were also read: "Human Suggestibility or Fads, Fakes, and Fake Cures," by Dr. S. L. Jepson, Wheeling; "Atrophic Rhinitis," by Dr. G. A. Aschman, Wheeling; "Artificial Hyperemia as a Therapeutic Measure," by Dr. J. Howard Anderson, Marytown; "The Arithmetic of Milk Modification," by Drs. J. T. Thornton, Wheeling; "End-Results in the Fracture of Long Bones," by Dr. S. M. Mason, Clarksburg; "Colles' Fracture," by Dr. A. J. Noome, Wheeling; "Radiographic Diagnosis," by Dr. A. J. Quimby, Wheeling; "Appendicitis and the General Practitioner," by Dr. W. W. Golden, Elkins; "Serum Therapy," by Dr. H. W. Daniels; "Institutional Specialism," by Dr. T. L. Barber, Charleston; "Placenta Prævia," by Dr. Sharpe; "Brain Surgery, with Report of Cases," by Dr. F. LeMoyne Hupp, Wheeling; "Cranial Injuries and Report of a Case of Subdural Cyst," by Dr. R. H. Powell; "Differential Diagnosis of Gall-stones," by Dr. L. H. Forman.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

Fifty-ninth Annual Session, held in Philadelphia, Sept. 27-30, 1909

(Continued from page 1507)

Ocular Manifestations Associated with Intracranial Lesions Complicating Aural Disease

DR. S. MACCUEN SMITH, Philadelphia: Intracranial lesions complicating acute middle-ear disease are of comparative infrequency. We are still deficient in ability to locate the majority of lesions involving the interior of the skull. Ocular symptoms, with the exception of nystagmus, are of definite significance to the extent that they appear to develop only when otitis has involved the tissues within the cranial walls. The importance of the association of the eye with the ear through their nervous connection has been largely overlooked in the past. Papilledema is a valuable diagnostic symptom of meningitis, but is not always present. In every case in which there is suspicion of the existence of an intracranial lesion following or accompanying disease of the middle ear, an examination of the fundus should be made, even though the sight be perfect. In the majority of aural affections involving the interior of the skull, if we wait for the appearance of diagnostic symptoms, we run the risk of losing our patients. Eye symptoms, like blood examinations, should not influence the diagnosis of an intracranial lesion in the presence of other distinctive symptoms. In brain abscess, ocular symptoms may be absolutely lacking, or may occur so late as to make it impossible to wait for their appearance. In meningitis, ocular symptoms are frequently present, but variable. In extradural abscess and sinus thrombosis, there are no eye symptoms unless the condition is far advanced. Labyrinthitis usually has nystagmus as a constant symptom from the beginning of the inflammation.

DISCUSSION

DR. S. LEWIS ZIEGLER, Philadelphia: The interrelation of the eye and the ear is still a *terra incognita*. From the aurist's point of view the ocular symptoms arising from otic disease are seldom pathognomonic. The most important ocular manifestations are those occurring as sequelæ of pressure edema of the nerve head. Motor disturbances are of a more complex character and manifest themselves either in the form of nystagmus or as muscular palsies. Muscular palsies may occur during the height of the middle-ear inflammation, or may result from operative procedures. Temporary amaurosis may occur, usually in the hemolateral eye, but sometimes in both eyes. The septic processes may originate grosser lesions, such as exophthalmos, orbital cellulitis, periorbital abscess or panophthalmitis.

DR. H. F. PYFER, Norristown: The literature is so filled with mention of eye conditions associated with ear diseases, that one would be led to believe that they are very closely associated, yet, although I make a habit of examining the eye-ground in all ear cases, I have been disappointed by failure to find associated lesions.

SYMPOSIUM ON RELATIONSHIP BETWEEN ACCESSORY SINUS AND OCULAR DISEASE

How May Inflammations of the Accessory Sinus of the Nose Occasion Inflammation of the Orbit and Eyeball?

DR. HOWARD F. HANSELL, Philadelphia: The anatomic and clinical investigations and the symposiums of medical societies in recent years testify to the great interest of the subject and have tended to bring together the ophthalmologist and the rhinologist to their mutual advantage and to the benefit of their patients. Disease of the orbit secondary to disease of the sinuses should not be confused with affections of both dependent on a common cause. Diseases of the accessory sinuses are communicated to the orbit by the orbital walls, by the veins and lymph channels and by continuity of tissue, and give rise to bony tumors, soft tumors composed of pus retained in the sac by the orbital periosteum and orbital cellulitis and abscess, either metastatic or direct, and other serious and fatal eye affections. Nasal obstruction is the cause of chronic conjunctivitis and superficial and deep keratitis. Persistent headache and asthenopia unrelieved by ocular treatment, is reflex in character, and due to nasal causes in many

unsuspected cases. This should be borne in mind by the oculist, and instead of searching for changes in the refraction which cannot reasonably be regarded as the cause of the trouble, investigate the condition of the nasal mucous membrane and of the adjacent cavities.

Sphenoid and Ethmoid Sinuses in Relation to Ophthalmologic Diseases

DR. D. BRADEN KYLE, Philadelphia, discussed the normal and anatomic relation of the sphenoid and ethmoid sinuses to the orbit; the importance of variation from the normal, first, as anatomic irregularities regarding size and position, and, second, pathologic, structural alterations; the significance of the *x*-ray as a means of diagnosis and prognosis; the importance of careful intranasal examination, and primary and secondary lesions.

Ocular Symptoms Caused by Intranasal Diseases

DR. JOHN F. CULP, Harrisburg: Many ocular symptoms of an obscure character are often caused by intranasal diseases in which intranasal pressure is a predominant factor. Removal of this pressure by nasal treatment, if not too long delayed, gives immediate and permanent relief.

Differential Diagnosis of Orbital Affections Due to Sinusitis, with Report of a Case of Thrombosis of the Cavernous Sinus

DR. WENDELL REBER, Philadelphia: There is more evidence to-day than ever before that anatomic and metastatic phases of orbital disturbance do not occur spontaneously, but are the direct result of previous rhinologic disease. These disturbances may be inflammatory or non-inflammatory. Of the former are periostitis, optic-nerve disorders, orbital cellulitis, orbital abscess and thrombosis of the cavernous sinus; of the latter are edema of the lids and chronic distention of the walls of the sinuses giving rise to crowding of the orbital contents. In cases of suspected sinus disease, exhaustive and repeated rhinologic examination should be made.

Discussion on Relation Between Orbital and Aural and Nasal Disease

DR. WILLIAM A. HITSCHLER, Philadelphia: While the diagnosis of sinus disease and its relation to ocular affections are often established with comparative ease, it frequently happens that this is a matter of great difficulty. The anatomic anomalies of the sinuses still further complicate the diagnosis. A right-sided optic neuritis may have its origin in the left sphenoid cavity or the left ethmoidal labyrinth. It is to be hoped that the *x*-rays may ultimately enable us to make a diagnosis with confidence.

DR. S. D. RISLEY, Philadelphia: Years ago, general surgeons called the attention of medical men to the great danger to life of suppurative diseases about the nostrils and upper lip. The region of the orbit should also be included in this. In 1896, there occurred in my family a fatal case of thrombosis of the cavernous sinus due to a pimple on the malar region. At that time I searched for an explanation of the edema of the eyelids which occurred in that case, but found only a slight reference to it, and that in Fuch's book. Since then, many cases of this affection have been reported. Before undertaking surgical interference in the region drained by the ophthalmic vein into the cavernous sinus, we should always have a picture of the possibility of thrombosis of this sinus in mind. Many of the patients with acute middle-ear disease will do well if treated by rest in bed, and such drugs as aconite, belladonna and salines, and in this way surgical interference may be avoided in cases in which it seemed at first to be necessary.

DR. W. CAMPBELL POSEY, Philadelphia: A careful ophthalmoscopic examination is of importance in sinusitis of the ethmoidal and sphenoidal cells. I believe that the ophthalmologist treats a number of cases of sinusitis in the belief that he is dealing with errors of refraction. The relief from atropin in such cases is not due to putting the ciliary muscle at rest, but to drying up the secretions in the sinuses. The fact that in a case of orbital cellulitis the nasal examination is negative should not be regarded as evidence that the trouble is not due to sinusitis. One should never undertake operation in these cases unless he is prepared to enter the sinuses.

DR. ROSS H. SKILLERN, Philadelphia: The complications from the sinuses result chiefly from the ethmoid and the sphenoid. The former are mild and the latter severe in their manifestations. There is a form of ethmoiditis characterized by the formation of polypoid masses in the ethmoid cells which causes more mild eye symptoms than all other sinus troubles together.

DR. S. LEWIS ZIEGLER, Philadelphia: I believe the antrum of Highmore furnishes more disturbance than the other sinuses. I am not sure that it is due to infection, and am inclining to the belief that some chemical irritant keeps up the inflammation in the eye.

DR. E. B. HECKEL, Pittsburg: In a case recently under my observation in which there was marked proptosis of the left eye, it was only after cooperation with others, including the radiographer, that a diagnosis of gumma could be made by exclusion. Treatment on this basis resulted in complete recovery.

DR. S. MACCUEN SMITH, Philadelphia: During the early stages of these sinus troubles good results are often obtained and complications which require surgical interference avoided if the patient is put to bed and treated by suitable remedies.

DR. GEORGE W. JOHNSTON, Pittsburg: More is expected of the *x*-rays in these cases than should be. They have strict limitations. It is impossible to state when a sinus is obscured whether this is due to an edematous membrane or pus, or both. However, if the picture is made with the patient in the erect posture, the level of the fluid, if due to pus, will be distinctly seen. The diagnosis is not made by a single examination, but by comparison at different examinations, and, unless the radiograms are made under identical conditions, comparisons cannot be made.

Psychoses Associated with Eyestrain

DR. S. D. RISLEY, Philadelphia: I have observed certain phases of mental disturbances associated with eyestrain—in one instance insanity, in others hallucinations, mental delusions and fear of insanity or loss of mental control. In all the patients entire relief followed the correction of the ocular strain which was due to defects of refraction, anisometropia and difficulty in maintaining binocular vision because of some muscular anomaly. In one of the patients, a high degree of exophoria made constant, strained attention necessary to avoid crossed diplopia; in three of the patients the fault was hyperphoria which upset the binocular balance. I desire to call attention to the great difficulty presented, in the present state of our knowledge of brain physiology, in reaching any satisfying explanation of the manner in which strain on a group of muscles innervated by the oculomotor should set up a symptom-complex essentially psychic in nature. I suggest that the contiguity of the at present accepted location of the oculomotor nucleus, to the primary visual cortex might, through the influence of the vasomotor nerves of the sympathetic, lead to vascular changes in the visual cortex, or that exhaustion or irritation might disturb the transmission of visual perceptions from the primary to the secondary or higher visual, or apperception areas, and so disturb the concrete mental conception of visual image.

DISCUSSION

DR. JOSEPH WILLETTS, Pittsburg: The eye, as associated with functional psychoses affecting the adult of middle life, is, in my opinion, a subject paramount in importance to any other subject in ophthalmology. I have long believed that the functional psychoses are primarily dependent on underlying, unrecognized natural causes. The almost magical disappearance of isolated groups of symptoms in distant organs after the correction of refraction errors and adjustment of muscle imbalances of the eye seem to me to be due to direct saving of nerve impulses which were being expended in unsuccessful attempts to compensate. The leak has been stopped and other organs get their normal supply.

DR. C. K. MILLS, Philadelphia: We must never make the mistake of supposing that the correction of the ocular errors will of itself absolutely cure these patients. It may, as in Dr. Risley's cases, so relieve the pressing conditions as to put the patients in good shape.

Conservative Surgery in Ocular Injuries

DR. L. WEBSTER FOX, Philadelphia: The treatment of ocular injuries must be approached from a standpoint different from that assumed in injuries elsewhere in the body. This is due to the complexity of the tissues found within a small compass rendering probable the injury to many dissimilar tissues at the same time. Also, traumatism to one eye puts on the surgeon the responsibility of maintaining the integrity of the other eye. The treatment of injuries to the eye is gradually being revolutionized, and better results will be obtained from such injuries in industrial centers where eye injuries are common and the pendulum is gradually swinging toward the side of conservatism rather than that of hasty enucleation. The teaching that the prognosis of injuries within a zone one-fourth of an inch wide encircling the cornea is necessarily grave, has not been my experience. I have found that in incised wounds of the eyeball, even in the ciliary region, the ciliary involvement is often minimized or *nil*, provided the incision penetrates between the ciliary processes, while a diagonal cut increases the ciliary involvement by extending directly through one or more of the ciliary processes. After injuries to the eyeball, in addition to local antiphlogistic applications, sodium salicylate internally is of great value. A patient can take daily a number of grains equal to the number of pounds body weight. I have done over 400 Mule's operations without a single case of sympathetic ophthalmia following the operation.

DISCUSSION

DR. EDWARD JACKSON, Denver, Colo. (by invitation): I was early impressed with the old statement about the danger of small penetrating wounds in the ciliary region as regards the danger of producing sympathetic ophthalmia, so that I have, so far as possible, sought to give free drainage to penetrating wounds in this region. In extracting foreign bodies I have tried to remove with the foreign body the injured tissue adjoining. In magnet extraction I have made as free an incision as possible. I have never had reason to regret preserving or attempting to preserve an eyeball. I have also learned by experience, rather than from the literature, that minute foreign bodies can be left in the cornea and in the tissues back of the cornea without insuring the loss of the eye.

DR. W. B. WEIDLER, New York: I have had good results from the use of large doses of sodium salicylate. I always work to the physiologic limit.

DR. S. D. RISLEY, Philadelphia: I am sure that many ophthalmologists save eyeballs now which in former years they made no attempt to save. I have in a measure lost my dread of punctured wounds in the ciliary region. It is folly to try to save an eyeball which contains copper, brass or lead. These substances may be surgically pure in the sense of infection, but they undergo certain chemical changes which are deleterious to the eye, and my experience is that I have had to remove such eyes sooner or later. The foreign bodies that we remove with magnets are not the most serious.

DR. G. E. DE SCHWEINITZ, Philadelphia: Injuries in the ciliary region are not quite so dangerous as we have been led to think; they are no more dangerous than injuries in some other parts of the eye. Whether an eye can be saved or not depends on the character of the injury. We are probably saving more eyes now than formerly. I have been using calomel combined with salicylate of sodium recently, with very good results. By large doses of sodium salicylate the tendency to sympathetic ophthalmia is distinctly lessened. I wish also to commend the use of conjunctival flaps for preventing infection of wounds at the sclerocorneal region.

DR. J. F. KLINEDINST, York: I do not remove so many eyes now as I did ten or fifteen years ago. I am able to preserve them by the use of sodium salicylate and simple external disinfectants; also, by using dionin and atropin. I have great faith in sodium salicylate in injuries of the ciliary region.

Refracting Opticians

DR. JAMES THORINGTON, Philadelphia, reviewed the efforts made by opticians in various states to obtain legislation which would license them to do refraction, and summarized the laws to this effect already existing in a number of states. He also dealt in detail with the bill which was defeated in the last session of the legislature in Pennsylvania. He set forth reasons why such legislation should not be enacted. The various "schools of optometry" were discussed and their defects pointed out.

Brief History of the Treatment of Stammering, with Some Suggestion as to Modern Methods

DR. G. HUDSON MAKUEN, Philadelphia: The treatment of stammering, although formerly in the hands of the medical profession, is now given over largely to charlatans and semi-professional empirics. This treatment, conducted on a purely commercial basis, is not only unscientific, but also, in the great majority of instances, wholly inefficacious. A certain small percentage of stammerers will regain freedom of speech without any special assistance whatsoever, and these are the only ones whom the treatment referred to can possibly reach, while in the majority of the severer cases, the patients are not only not benefited by it, but are made distinctly worse by having their confidence shaken and their hope destroyed. The unscientific treatment of the charlatan consists largely in an attempt to cure the affection by a kind of short-cut, psychotherapeutic method, ignoring almost entirely the physical habits on which the affection to a large extent depends. The cures are only temporary, and the stammerer is worse off than he was before. Stammering is a psychophysical affection, and any scientific treatment of it must take into account its dual nature. The modern scientific treatment of stammering, therefore, recognizes the psychophysical nature of the affection. It aims to supplant the faulty habits of speech with correct ones, and at the same time to meet the requirements of the psychical condition.

DISCUSSION

DR. E. KENYON, Chicago (by invitation): Stammering is a social disorder only; the stammerer can talk to himself indefinitely without stammering, but stammers only when talking to others. All the problems relating to stammering are medical problems and can be solved only by the physician. The mother of a stammering child in the smaller communities is unfortunate in not having any one to go to but the family physician, whose advice in this respect is often unfortunate, to say the least. Every physician should know certain basal facts so that his advice may not do harm. We will supplant the methods of the flamboyant stammering schools only by making our methods more effective than theirs. In the larger cities there should be stammering classes in the public schools presided over by medical men.

DR. D. B. KYLE, Philadelphia: Stammering is only one form of speech defect. Whether it is a local or a mental one is a question. The habit of stammering is mental. Several years ago I showed two boys, previously not stammerers, who acquired the habit from a third boy. The proper treatment of stammering requires individual attention. If four or five stammerers are put together for treatment, not much can be accomplished.

DR. E. BOSWORTH MCCREADY, Pittsburg: Dr. Makuen has done more than any other man in this country to take the treatment of speech defects out of the hands of the charlatan. I believe that the tendency to stutter is present in the child from the time he begins to speak. In a recent study of 26,000 school children in Pittsburg, I found that over 1 per cent. were stutterers. The problem of taking care of so many is a serious one. It resolves itself into a question of special classes or special schools.

DR. G. HUDSON MAKUEN: There are marked exceptions to the rule that stammerers do not stammer when they talk to themselves. Many a stammerer does not know that he stammers until he is told by some one. A majority of children with speech defects are wholly unconscious of the defect. Patients are cured of stammering only when they have been so trained that they can talk more easily without than with stammering.

Mastoiditis in Diabetes

DR. B. H. POTTS, Philadelphia: Although there is decidedly more risk in operating on diabetic than non-diabetic patients, when it becomes necessary to operate, the earlier the proce-

dure is resorted to the better the chance of recovery. Mastoditis in diabetes is almost characteristic, in that it often occurs without any marked signs of trouble in the tympanum, beginning apparently as a primary osteitis of the mastoid, and also that the destruction of bone takes place more rapidly and more extensively than in other cases. Whether the destruction of the bone in the mastoid be rapid or slow, the acute inflammatory phenomena are apt to be absent until rather late. This is an added indication for early operation. The danger of anesthesia is greater in these cases, and, following ether or chloroform, there may be dyspnea, which usually presages a fatal termination. Speed in operating and short anesthesia are extremely important factors. The removal of the involved bone must be thorough. It is better not to close the external wound by suture.

Restoration of the Upper Eyelid by Skin Graft, with Report of Three Cases

DR. EDWARD B. HECKEL, Pittsburg: Skin grafting in these cases is rarely done and the technic is usually faulty. In my cases I used Thiersch grafts for the arm. The upper lid was drawn down and stitched to the cheek to increase its surface. The graft taken was three times the area of the surface to be covered. After contraction occurred the cosmetic result was excellent.

DISCUSSION

DR. G. B. JOBSON, JR., Franklin: I believe that it is better to use grafts without pedicles wherever possible. Local is preferable to general anesthesia. I use 2 per cent. cocain with 1 to 2,000 adrenalin, injecting it into the lid. Hemorrhage from the denuded lid must be controlled absolutely or the graft will not adhere. The graft must be two or three times the size of the area to be covered.

DR. WILLIAM CAMPBELL POSEY, Philadelphia: I would much rather use a pedicle flap than Thiersch grafts. The pedicle flap is better nourished and, if carefully planned and massage is used, the cosmetic result is good. I prefer local anesthesia, but use 2 per cent. solution of novocain, as it is less toxic than cocain. I do not think it is necessary to have every bleeding point controlled. The quicker one gets through with the operation the more certainly will healing occur.

Isolated Paralysis of the External Rectus in Acute Otitis Media

DR. W. HARDIN SEARS, Huntingdon: This condition has been reported by a number of observers. In one series of 257 cases of paralysis of the external rectus it was due to otitis media in 2 cases. In a case of otitis media which I observed, paralysis of the external rectus occurred coincidently with acute articular rheumatism. Complete recovery followed the use of sodium salicylate and pilocarpin.

DISCUSSION

DR. T. B. SCHNEIDEMAN, Philadelphia: Paralysis of the sixth nerve is a rare complication of otitis, and is most frequent between 5 and 15 years of age. One bilateral case has been reported, but in this case the ear distress was bilateral. The mortality in collected cases has been 16 per cent. The most certain preventive measure is early and adequate paracentesis with proper drainage.

(*To be continued*)

MISSISSIPPI VALLEY MEDICAL ASSOCIATION

Thirty-fifth Annual Meeting, held at St. Louis, Oct. 12-14, 1909

(Continued from page 1506)

Surgery of the Gall-Bladder

DR. W. D. HAINES, Cincinnati: In cholecystectomy, the first essential is to secure the cystic duct and artery in the grasp of a long hemostat placed near the junction of the cystic with the hepatic duct. Another hemostat is placed a short distance before the first and the cystic duct and vessel are divided. The first hemostat will control hemorrhage and the second will serve as a retractor in the succeeding steps of the operation. Incision of the peritoneum for stripping up the gall-bladder should be made in the fold where the peritoneum is reflected from the gall-bladder to the liver, in order to preserve sufficient tissue to cover the raw surface of the liver. If unusual difficulties present themselves in ligating the cystic artery, the hemostat may be left in place for forty-eight hours. The denuded surface of the liver is then covered by sutures of divided peritoneum and a rubber tissue-covered drain placed in the bottom of the wound. A large vein, sometimes mistaken for the portal vein, is occasionally found crossing the ducts, and, if present, is almost invariably injured in the course of the removal of the gall-bladder. It should be clamped, doubly ligated, cut and the end retracted, as hemorrhage in the bottom of the wound is difficult to control, causes delay and adds to the shock of the operation. In closing the abdomen the peritoneum and posterior sheath of the rectus are included in the first tier by a button-hole or interrupted suture. Two or three figure-of-eight silkworm-gut sutures should be placed so as to include the muscle, the fascia and skin, but are not tied until the anterior fascia is closed by continuous catgut.

The Latent Gall-Stone

DR. C. N. SMITH, Toledo, Ohio: In the light of our present knowledge of the initial symptoms of gall-stone disease and of the slight or characteristic symptoms of latent gall-stone, we must believe that in every case they have produced, do now produce and will continue to produce a certain train of symptoms so distinctive in nature that a positive diagnosis depends only on a correct interpretation of them. The three symptoms which are mentioned almost invariably when cholelithiasis is in consideration are colic, jaundice and putty-colored stools. Every one of these symptoms is a late or terminal event occurring after a more or less prolonged period of occupancy of the gall-bladder by the stone, during which period distinctive and diagnostic symptoms are present, and should be correctly interpreted. One of the most important advances in the surgical treatment of diseases in the upper abdomen accrues from the recognition of the fact that 80 per cent. of the cases of chronic pancreatitis are the result of gall-stones and the sequentially occurring infections of the biliary tract. Medical and hydropathic treatment, both confessedly powerless in so far as absorption or removal of the concretion is concerned, aim only at the control of the symptoms through abatement of the infection. Surgery, advancing on the limited possibilities of medicine, by one safe and eminently successful procedure, removes simultaneously the causal gall-stones and the resultant infection.

Latent Duodenal and Gastric Ulcer

DR. WILLARD J. STONE, Toledo, Ohio: Duodenal and gastric ulcers are more common than supposed. Most of them are masked under the symptoms and diagnosis of functional hyperchlorhydria. The acute forms, with severe recurring hemorrhages in certain cases may demand surgical interference, although such patients are in an extremely critical condition and the surgical risk extremely hazardous. Many patients recover under medical care. Perforation demands, first of all, early diagnosis. Fully 60 per cent. of these cases are wrongly diagnosed, as appendicitis, gall-bladder, intestinal obstruction or acute peritonitis, not stating the cause. The earlier the interference the better the results. Goldstücker, who has recently reviewed 236 cases of perforation, found that among patients operated on within the first 12 hours the mortality was 29 per cent., after 12 hours the mortality was 54 per cent. Robson found among 155 cases of perforating ulcer in the literature to 1907, that the mortality among the patients operated on during the first 24 hours was 37.7 per cent., after 24 hours the mortality was 85 per cent. In about one-fourth of the cases in the literature of perforating duodenal ulcer no previous dyspeptic symptoms suggestive of the condition had existed. Fully 75 per cent. of uncomplicated ulcers of the duodenum or stomach are cured by medical means, the remaining 25 per cent. become chronic and may be classified under: (1) Chronic ulcer with active symptoms, such as pyloric spasm, scar contraction, perigastric adhesions or malignant transformation; (2) chronic ulcer with latent symptoms, which may be defined as that type giving rise to periodic attacks of distress at the height or end of gastric digestion

and simulating in a large percentage of cases neurotic or functional hyperchlorhydria. Hemorrhage or vomiting is not necessarily a symptom of chronic ulcer. The attacks are periodic, lasting a month or two, with recurrence after two or three months. The distress is relieved by taking food, milk or an alkali. Hypersecretion, which is a far more important diagnostic sign than hyperchlorhydria (which exists in about one-half the cases), is practically always present. The finding of from 50 to 100 c.c. hyperacid secretion in the fasting stomach is extremely suggestive of ulcer. Patients often complain of raising a mouthful of acid secretion from the stomach when the organ is supposedly empty. Elaborate laboratory investigations are not necessary. The longer the pain is relieved by food the more probable is the lesion duodenal rather than gastric. The typical pain of chronic duodenal ulcer occurs from three to five hours after a meal. Pyloric stenosis in infants, when due to pyloric spasms from hyperacid contents (not the true congenital stenosis due to hyperplasia), may be the result of reflex irritation from a pyloric or duodenal ulcer. In an infant of six weeks dying in thirty-six hours with symptoms of laryngismus stridulus and pyloric obstruction, an ulcer one centimeter in diameter was found in the duodenum just below the pyloric ring. The differential diagnosis should, in general, exclude cholelithiasis and, in particular, functional non-organic hyperchlorhydria. Chronic ulcer of duodenum and stomach is not, as a rule, cured by medical means. Such patients may, however, barring the contingency of severe hemorrhages or perforation, be fairly comfortable with a carefully regulated diet and appropriate medical treatment. If these measures fail after a reasonable time surgical aid offers the best hope for cure when performed by those experienced in the surgery of the upper abdomen.

Discussion on Gall-Bladder and Gastric Surgery

DR. A. J. OCHSNER, Chicago: Our attention has been directed constantly to the fact that we must look for gall-stones, without complications, without the impaction of the stones in the ducts, whenever a patient complains of gastric symptoms, and that we can count on an early diagnosis in the majority of cases from now on. The mortality following operations for the removal of gall-stones is small now as compared with what it was six or eight years ago. At that time patients were operated on who were suffering from cholangitis. Another reason why the mortality is small now, is that fewer harmful things are done during the operation. The gall-stones are simply removed and drainage established.

DR. R. A. BATE, Louisville: If we go back to the origin of gall-stones, there is absolutely no reason why medicine should not remove every gall-stone which is composed of 90 per cent. cholesterin. If the gall-stones are differentiated, those containing bilirubin calcium in greater proportion than 10 per cent. may require surgical interference. Gall-stones are formed in the gall-bladder and in the ducts in very much the same way as mucin, and when stagnation of bile occurs the mucin causes putrefaction of the bile, and this in turn permits the micro-organisms which are not very hard to overcome, to pass up, and wherever cholesterin is deposited by the lecithin being broken up, the lecithin holds the cholesterin in solution. There are three factors to consider in connection with gall-stones: Microbes of various kinds, alkalies, and the acids.

DR. H. TUHOLSKE, St. Louis: A fairly large personal experience has taught me the important lesson that a gall-bladder with stones in it can be relieved when the stones are mechanically taken out. I have spent considerable time at the great Mecca of the gall-stone sufferers, Carlsbad. I have heard people say that there are enough gall-stones passed in Carlsbad to pave the streets with them. I have come in contact with the best men of the profession there, have talked with them about gall-stone cases, and I am sorry for any man or woman who has a gall-stone that goes traveling and leaves its comfortable little bed in the gall-bladder, for then trouble is likely to begin. There is danger of lodgement in the narrow duct. There is danger of ulceration and perforation. Then come all the obstructive symptoms the adhesions which muddle the picture and produce a serious condition. When the gall-bladder is in a fair condition, the dangers incident to the removal of the stone or stones is not great. The presence of gall-stones not infrequently causes a change in the epithelium of the gall-bladder, and we may find the typhoid bacillus as a nucleus in the gall-bladder. All things considered, when a diagnosis of gall-stones is made, it is better for the individual to have the stones taken out.

DR. DANIEL N. EISENDRATH, Chicago: While olive oil has its function, there are cases in which, either through some condition of the patient or complication, or some voluntary objection to the operation, the patient will not consent to operation. Such patients are benefited temporarily by olive oil and the Carlsbad waters; but let there be obstruction produced by the gall-stones, or let there be retention of secretion, hyperemia occurs and all the pathologic processes incident to obstruction. What happens? There are cases of gall-stones in which the common duct stone becomes impacted, stays for a few days or a few weeks, and goes back again. Fenger called attention to this under the head of intermittent jaundice in connection with common duct stones. Carcinoma not infrequently develops from the constant mechanical irritation of a gall-stone or gall-stones. The only reliable and satisfactory treatment for gall-stones is to remove them.

DR. J. HENRY CARSTENS, Detroit: It is an outrage for a general practitioner, or for a specialist in gastrointestinal diseases to treat patients month after month and year after year in different ways, without making a correct diagnosis. It would redound to the credit of such men to say, when they are in doubt: "I do not know whether you have duodenal ulcer or ulcer of the stomach, and I think you ought to go to an abdominal surgeon, who can make a small opening and find out whether you have gall-stones or not. If you have, they can be taken out. On the other hand, if it is an ulcer, it can be excised, the opening closed and a cure effected."

DR. THOMAS B. NOBLE, Indianapolis: Several years ago I did a pelvic operation which necessitated a suprapubic incision. During this operation I discovered two stones the size of marbles in the free gall-bladder. Directly thereafter that woman was given phosphate of sodium for one year. For another year she took olive oil three times a day, after which she was seized with intense pain due to a stone blocking the cystic duct, and an infected gall-bladder. I had to do an emergency operation, and I found these stones of the same size and the same character they were two years previously. Previous to that time I was not very much in favor of medical treatment in cases of preformed stones, and I am less so now.

DR. RICHARD A. BARR, Nashville: Olive oil must be brought in contact with the gall-stones to do any good, and one may as well rub olive oil on the outside of the abdomen as to give it internally, so far as any effect it would have in preformed gall-stones is concerned.

DR. M. C. MCGANNON, Nashville: A member of the medical profession came under my observation two years ago as a patient who had had persistent jaundice for three months. It was not accompanied by pain. He was quite yellow at the time I saw him. He had lost flesh, and it was thought that he might be suffering from cancer. A diagnosis of cancer had been made by a good internist. When the man came under observation I was willing to agree with the internist in the supposition that the condition was cancer, but as he was a physician I put this argument before him: "If this is cancer, you will certainly die from its effects. If it is not cancer, and you submit to operation, we may be able to give you relief. If we do not give you relief, we at least will do you no harm. We will not shorten your life with an exploratory incision, to determine the character of the trouble." The operation was consented to and performed. The gall-bladder was found to be completely shrunken, the duodenum involved in a mass of adhesions, binding it down into a knuckle formation about the gall-bladder and liver. The breaking up of the adhesions was effected with a great deal of difficulty. The stomach was opened in the dissection, but closed at the time. The breaking up of the adhesions relieved the condition. The gall-bladder was removed, and to-day that man, after four years, is able to ride horse-back and is practicing medicine in the state of Tennessee.

(To be continued)

Medicolegal

Physician's Insurance Not Proper to Be Shown in Malpractice Case—Liability of Administerer of X-Ray Treatment

The Kansas City Court of Appeals says that the plaintiff in the malpractice case of Gore vs. Brockman (119 S. W. R. 1082) alleged that in the defendant's treatment of her with the *x*-ray, for hardening of the right lobe of the liver, the right side of the abdomen for a space of more than one foot in diameter was blistered and became raw and sore, etc. She recovered a judgment for $3,500, but that is reversed, and a new trial ordered, account of errors in the trial.

First of all, the court holds that it was improper and highly prejudicial to ask the defendant, on cross-examination, if he did not, on or about the time when the plaintiff's condition became serious, take out physician's protective insurance to guard against damages that might accrue from this or any other suit for malpractice. The issue on trial was the alleged negligent treatment of the plaintiff by the defendant as her physician, and indemnity insurance would not aid in determining that question; but, more than that, the tendency and effect was to withdraw the real defendant from the consideration of the jury and to substitute for him an insurance company. A litigant has a right to his own personality, and the opposing party has no right to have the consideration of his claim influenced or measured by any other standard, so far as individuality is concerned, than that afforded by the party of whom he complains. He cannot ask unliquidated damages of a good man who may have injured him and then substitute a bad man at the trial.

Again, the defendant was asked if he had not conveyed property. As asked, the question was improper. It would, however, have been permissible to ask him on cross-examination if he had conveyed his property to avoid payment of damages he may have considered he had incurred.

An instruction given the jury submitted, among other things, whether *x*-ray treatment "was in accordance with the ordinary and established practice of the medical profession for the treatment of the disease from which the plaintiff was suffering." The proper submission of that question, as raised by the petition, was whether an ordinary skilful and prudent physician would have adopted that treatment in the circumstances which confronted the defendant when he applied it.

Of the instructions asked by the defendant, two were refused which informed the jury that the defendant as a physician should not be held as an insurer of the success of treatment "by the *x*-ray process," or that it would not be attended by unexpected results, and that he was only required to have the necessary learning and experience to give the treatment in a careful and prudent manner. These instructions were proper, and should be given on another trial, unless the issue was clearly tendered that there was negligence or unskilfulness in prescribing such treatment at all. If that was an issue, then the instructions should also cover that phase, for a physician might be fully equipped in learning, skill, and care to use the *x*-ray, and yet use it in a case where a prudent physician would not have adopted it as a remedy. For instance, a surgeon might possess great learning and skill, and when performing a certain operation might be as careful as possible, yet it might be that a prudent and skilful man of that profession, in the same circumstances and conditions, would not have performed such an operation.

On the subject of direction to the jury in cases of this character, it may be stated to be the law that a physician is not to be held for honest error of judgment. He is only required to give his patient his diligent attention and best thought, and in prescribing, administering, or applying treatment, to use that care, skill and prudence that an ordinarily capable physician would use in the same or like situation and condition or circumstances. Otherwise, in view of the fallibility of all men, we would require of him more than can justly be demanded.

The issue which one should tender who seeks to hold a physician liable in damages for malpractice is incompetency or negligence, or both. As to which of these, or whether both, should be charged, must, of course, depend on the case, but, at all events, the charge relied on should be distinctly made so that confusion may not result.

Liability of Publishers of Changed or False "Patent Medicine" Testimonials—Admissibility of Evidence of Analysis, Etc.

The Court of Appeals of Kentucky says, in Foster-Milburn Co. vs. Chinn (120 S. W. R. 364), an action brought by the latter party to recover damages for a wrongful publication of an alleged testimonial of Doan's Kidney Pills, in "Doan's Directory," that it is a fraud on the public to publish indorsements of public men in publications of this character which are not genuine. A man has the right to complain when he is published in a directory having a circulation of 8,000,000 copies, as indorsing a "patent medicine" he has never seen. To publish with the forged letter his picture and a sketch of him is to give weight to the letter. It has become a custom in the press to publish the pictures of prominent public men; but it is a very different thing for a manufacturer to use without authority such a man's picture to advertise his goods in connection with a forged letter indorsing the goods.

Words which are written or printed are actionable when they subject a person to disgrace, ridicule, odium, or contempt in the estimation of his friends and acquaintances or the public. How far the publication in question would subject a person to ridicule or contempt or make him odious is a question for the jury. While there is some conflict in the authorities, this court concurs with those holding that a person is entitled to the right of privacy as to his picture, and that the publication of the picture of a person without his consent, as a part of an advertisement for the purpose of exploiting the publisher's business, is a violation of the right of privacy, and entitles him to recover without proof of special damages.

The plaintiff recovered a judgment in this case for $2,500 damages, but that is reversed, and the cause remanded for a new trial, on account of an erroneous admission of certain evidence.

A physician, who was a member of the American Medical Association, was allowed to testify that an officer of the association had made an analysis of Doan's Kidney Pills; that he had seen a report of the analysis, and that it showed that the pills were composed of certain ingredients; that a pill thus composed was harmless, but of no value, and that Doan's Kidney Pills were a fraud. This evidence was incompetent, as hearsay, though a witness who has made a chemical analysis himself may testify as to the analysis which he has made. The contents of the pills could only be proven by some person who knew the facts.

It was also error, the court holds, to permit physicians to testify as to the repute in which the medical profession holds those whose names appear in patent medicine advertisements, the plaintiff not being a physician, and the subject not being one for expert testimony, because the jury, when the facts were shown, could judge of this as intelligently as the witnesses. But it was proper to allow it to be shown that there was a scale of prices paid for cards of this sort, as this would tend to show that persons who knew of the custom of paying for such cards might conclude that the plaintiff had sold his signature.

Conducting of So-called "Maternity Hospital" the Maintenance of a Nuisance

The Supreme Court of Oregon says that in the case of State vs. Atwood and another (102 Pac. R. 295), the defendants, who were charged with equipping and maintaining a "maternity hospital" with the intent of unlawfully producing abortions, were convicted, under the "nuisance statute" of that state, of the crime of committing an act grossly disturbing the public peace and health, openly outraging public decency, and injurious to public morals. The conviction is affirmed by the rule invoked where the reviewing court is evenly divided, as was the supreme court here with regard to the statute applying.

In what may be termed the prevailing opinion in this case it is stated that it was not necessary to allege that the acts of the defendants in producing abortions were done in cases where the operations or procurements were unnecessary. The offense related to a business or condition. If there were a

statute authorizing the procuring of abortions in certain cases, it might be necessary, in an indictment in such a case as this, to negative such exceptions, but Oregon has no such statute. Or if this were a prosecution under a criminal statute, and in the description of the offense certain exceptions were made, then such exceptions must be negatived in the indictment.

But the business of wrongfully and unlawfully committing and producing abortions can have no reference to, nor include instances in, the legitimate practice of medicine, in which an abortion may be necessary and lawful, and the charge of this offense need not negative such cases. The charge here was that the house was maintained with the intent and purpose of wilfully, wrongfully and unlawfully producing abortions. It was not the purpose of the indictment to charge that the intention of the defendants was to commit the crime of killing by producing abortions under section 1748, but that they were conducting a business that openly outraged the public decency and was injurious to public morals, and the business with which the defendants were charged clearly came within those terms.

The conclusion is that the acts charged against the defendants were not lawful, neither authorized by law, nor morally right, but constituted a nuisance per se (in and of themselves), and therefore need not be shown to be performed in a public place, and that the charges in the indictment were sufficient to constitute a nuisance under the "nuisance statute."

Current Medical Literature

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

October 23

1 Ehrlich's Side-Chain Theory of Immunity. J. W. McLaughlin, Austin, Tex.
2 Empyema of the Antrum of Highmore; Its Relation to Other Diseases, and Its Treatment. W. Freudenthal, New York.
3 Rigidity of the Chest Muscles as a Sign of Involvement of the Pulmonary Parenchyma. F. M. Pottenger, Monrovia, Cal.
4 Therapeutic Value of Antigonococcus Serum and Gonococcus Bacterins. G. K. Swinburne, New York.
5 *Ethyl Chlorid as a General Anesthestic for Operations in the Throat as Especially Applied to Children. E. M. Sill, New York.
6 Interstitial Keratitis in Acquired Syphilis. S. L. Phillips, Savannah, Ga.
7 *A New Physical Sign. F. M. Pottenger, Monrovia, Cal.

5. **Ethyl Chlorid as a General Anesthetic.**—Sill regards ethyl chlorid as a comparatively safe and reliable general anesthetic which is most suited for operations for removal of adenoids and tonsils in children. It is simple of administration and does not require an expert or one of large experience to give it. The patient is under the influence quickly, is out almost immediately on completion of the operation; there are no unpleasant or dangerous effects from its use either during or after the operation. This anesthetic is not only especially applicable in operations in the throat, but should be used in most other operations performed on children. When the inhaler is kept over the patient's nose and mouth he can be kept under the anesthetic as long as desired. It is only when that is removed that the patient regains consciousness more quickly than with other anesthetics. When long operations are necessary on the nose or throat, Sill advises first putting the patient under ethyl chlorid and then continuing deep anesthesia with ether, using the drop method.

7. **New Physical Sign.**—This sign, probably a skin reflex, whereby solid organs, the heart and liver, and inflammatory processes found in lungs and pleura may be detected by palpation, consists of a feeling of resistance to the palpating finger when pressed gently on the skin. To determine the presence of this sign, Pottenger says that it is well to begin at some little distance from the edge of the organ, or if it be an inflammation or infiltration that is to be outlined, it is well to begin over presumably normal tissue, and then by advancing toward the area whose limits are to be determined there will be noted a feeling of resistance when this is reached. He believes it to be a skin reflex produced by the contraction of the erectores pilorum. The heart can be easily and accurately outlined by it, the liver dulness, both relative and absolute, can be determined, and the areas of infiltration in the lung can be mapped out with surprising accuracy.

Boston Medical and Surgical Journal

October 21

8 The Diagnostic Bearing of Certain Normal and Abnormal Pulmonary and Pleural Conditions. F. T. Lord, Boston.
9 Work Accomplished in the Control of Tuberculosis in Massachusetts During the Past Year. A. T. Cabot, Boston.
10 Necessity of Providing Suitable Employments for Tuberculosis Patients. A. Worcester, Waltham, Mass.
11 *Program for Tuberculosis Societies in Smaller Cities and Towns. C. A. Allen, Holyoke, Mass.
12 Asexualization as a Remedial Measure in the Relief of Certain Forms of Mental, Moral and Physical Degeneration. J. E. Mears, Philadelphia.
13 *Intravenous Use of Strophanthin in Broken Cardiac Compensation. A. K. Stone, Boston.

11. **Program for Tuberculosis Societies.**—Allen places before the profession a general plan of organization and a practical working scheme which has been found valuable in actual practice in several Massachusetts cities and towns. He says:

> Get together a few interested persons, with as many physicians among the number as possible; also business men, ladies prominent in social and charitable work, the Young Men's Christian Association, clergy, and others interested, and organize. Every organization should have one central board of directors or executive council, who should have full control of the work. Let them appoint a few essential committees, somewhat as follows: (1) On education and publication; (2) finance; (3) laws and ordinances; (4) hospitals and day camps; (5) membership; (6) statistics; (7) tenement and milk inspection; (8) relief. These and other committees should be appointed according to the location, character and need of the community. It would seem wise to have the chairmen of all committees members of the central board, and let them appoint the other members from outside, so as to interest as many public-spirited citizens as possible. The committees should report to the central board at stated intervals, giving full detail of all work done or attempted. As soon as the society is fully organized, hold a general public mass meeting. See the editors of all local papers and get their assistance in advertising the meeting and its object. Have some man of prominence in the work as the principal speaker, and invite all physicians, nurses, teachers, charitable and fraternal orders to attend, besides the general public. Following such a meeting have the tuberculosis exhibit for a week, if possible. The mass meeting, exhibit, and free newspaper advertising will thoroughly awaken the community, and the work of the various committees will be greatly enhanced thereby. The cost of maintaining an active antituberculosis organization is considerable. Besides membership fees and voluntary contributions, funds may be secured in various ways. Churches, fraternal organizations and charitable societies have contributed generously.

13. **Strophanthin in Broken Cardiac Compensation.**—Stone believes that in strophanthin we have a powerful agent for good, if used with discretion, and one with which disastrous consequences may occur if it is used recklessly. The drug should be injected only by physicians who have had much experience with cardiac disease, and who are sure of their intravenous technic. Stone has given strophanthin intravenously over fifty times without a single death attributable to the drug. He makes it a rule to postpone the injection long enough to be sure that all digitalis previously given has been excreted.

New York Medical Journal

October 23

14 Municipal Campaigns for Reducing Infant Mortality. S. W. Newmayer, Philadelphia.
15 Prevalent Diseases of Tropical America. J. H. Egbert, Portovelo, Ecuador, S. A.
16 Esperanto in Relation to Medicine. K. W. Millican, Fairlee, Vt.
17 Cancer of the Stomach. J. E. Cannaday, Charleston, W. Va.
18 Economics of Health. R. J. Behan, Pittsburg.
19 Treatment of Ophthalmia Neonatorum. M. J. Levitt, Brooklyn.
20 The Thiocyanates in Solution, the Natural Physiologic Solvents of the Body. B. R. Le Roy, Athens, Ohio.
21 *Home Modification of Cow's Milk for Infant Feeding; Simplified Method. H. B. Sheffield, New York.
22 *Rectal Erosions; New Method of Examination. S. Lewis, Lakehurst, N. J.

21. **Home Modification of Cow's Milk.**—Sheffield gives the following directions:

1. Bear in mind the standard formula (1:1), which is intended for babies six months old.
2. For infants under six months increase (about every two months downward) the diluent by one ounce or its multiple, using "top milk" as a base and plain or cereal water as the diluent.
3. For infants over six months of age, increase (every six months upward) the milk by one ounce or its multiple, using "whole milk" as the base and cereal water as the diluent.
4. Include in the diluent one teaspoonful of lime water for every ounce of milk, and add one third of a teaspoonful of milk sugar for every ounce of the diluent.

22. **Rectal Erosions.**—Instead of the usual speculum, Lewis employs glass rectal dilators. One of these, as large as the patient will bear, should be lubricated with glycerin or some other transparent lubricant (not petrolatum) and inserted.

The entire surface is at once open to inspection. The normal mucosa is pale from pressure; and fissures, erosions, or emboli are clearly seen. Partial relief of pressure by tilting or partial withdrawal of the "speculum" may assist. An electric diagnostic lamp is useful. The most satisfactory treatment Lewis has employed has been the use of potassium permanganate, crystal or saturated solution, followed by the usual powders, ointments or suppository as the case may demand.

Lancet-Clinic, Cincinnati

October 16

23 Mistakes in Medical Practice. S. G. Bonney, Denver.
24 The Modern Medical College. C. A. L. Reed, Cincinnati.
25 Conservatism in Ear, Nose and Throat Surgery. F. W. Davis, Cincinnati.

Kentucky Medical Journal, Bowling Green

October 1

26 Medical Defense. J. J. Moren, Louisville.
27 Some Needed Changes in Medical Defense. C. Pope, Louisville.
28 Enterocolitis. R. J. Estill, Lexington.
29 Diarrheal Affections of Children. H. Blane, Cadiz.
30 *Treatment of Acute Insanity. S. Brown, Chicago.
31 Removal of Foreign Bodies from the Trachea and Esophagus. J. W. Murphy, Cincinnati.
32 Rachitis: Pathology, Diagnosis and Treatment. E. F. Katzmann, Louisville.

October 15

33 Intestinal Obstruction. W. H. Wathen, Louisville.
34 Submucous Fibroids Complicating Labor. G. C. Leachman, Louisville.
35 Bier Static Hyperemia. F. L. Koontz, Louisville.

30. Published in the *Illinois Medical Journal*, October, 1909.

Northwestern Lancet, Minneapolis

October 1

36 A Talk to Doctors. J. N. McCormack, Bowling Green, Ky.
37 Epidemic Anterior Poliomyelitis. A. S. Hamilton, Minneapolis.

Virginia Medical Semi-Monthly, Richmond

October 8

38 The Negro as a Factor in the Spread of Tuberculosis. T. A. Parker, Richmond.
39 Pathognomonic Signs as Relating to Appendix Location. A. J. Walscheid, Union, N. J.
40 Pellagra; Report of a Case. C. H. Saunders, Chase City.
41 Pellagra; Report of Fourteen Cases (continued). W. F. Drewry, Petersburg.
42 Production of Immunity. J. W. Winston, Norfolk.
43 Celiac Parotitis. E. L. Crutchfield, Baltimore, Md.
44 The Medical Society of Virginia. S. McGuire, Richmond.

Alabama Medical Journal, Birmingham

September

45 The Doctor and Proprietaries. C. L. Murphree, Gadsden.
46 Care of the New-Born. C. M. Nice, Birmingham.
47 Fused Kidney (Horseshoe Kidney). B. Robinson, Chicago.
48 Management of the Heart in Convalescence. R. H. Hamrick, Birmingham.
49 Therapeutics of Digitalis, Strophanthus and Sparteine. E. C. Bandy, Birmingham.

Archives of Internal Medicine, Chicago

October

50 *Further Observations on the Third Heart Sound. W. S. Thayer, Baltimore.
51 *The Effect of Tuberculosis on the Heart. F. M. Pottenger, Monrovia, Cal.
52 *Influenzal Meningitis. D. J. Davis, Chicago.
53 Clinical Significance of the Urinary Nitrogen. J. Ewing and C. G. L. Wolf, New York.
54 *Mechanical Factors in Experimental Acute Pulmonary Edema. J. L. Miller and S. A. Matthews, Chicago.
55 *Comparative Study of Serodiagnosis in Syphilis. H. F. Swift, New York.
56 *The Much-Holzmann Seroreaction in Insanity. A. J. Rosanoff, Kings Park, N. Y.

50. **The Third Heart Sound.**—According to Thayer, the third heart sound is present in the majority of young individuals in the recumbent and left lateral posture. This sound may well be due, he says, as first suggested by Hirschfelder, and later, independently, by Gibson and Thayer to the sudden tension of the auriculoventricular valves as a result of the first rush of blood from auricle into ventricle in diastole. Pathologically, the sound is most frequent in conditions in which the quantity of blood entering the ventricle from the auricle is especially large; in which the diastole is unusually rapid; in which there is a lowered ventricular tonus or dilatation of the ventricle. The most striking examples of these conditions are aortic and mitral insufficiency, some instances of slight mitral stenosis combined with insufficiency, adherent pericardium, myocardial weakness, and dilatation of the ventricle. A protodiastolic gallop is not, therefore, *per se*, a pathologic manifestation.

51. **Effect of Tuberculosis on the Heart.**—Of one-hundred and sixty-two hearts examined by Pottenger, seventy were under 11 cm. in diameter, measured on a level with the fourth interspace, and ninety-two were more than 11 cm. Of course it must be remembered, he says, that we are not always measuring the same cross-section of the heart, for in the displacement that occurs different portions of the heart are found on a line with the fourth interspace. It must also be understood that no effort was made by Pottenger to give the greatest cross-diameter of the heart in these measurements. It is probable that these figures are somewhat in error as to the size of the heart, for signs of hypertrophy of the right ventricle were present in a large number of the cases, which, together with the traction of the pleura on the pericardium, as it often occurs in the advanced cases, would probably have a tendency in certain cases to force the heart backward. Thus a considerable degree of enlargement of the heart might be present without enlarging its borders, as found on percussion. The same condition results from the fact that as the heart is pushed to the left it is forced to turn backward because the walls of the chest turn backward. The conclusions arrived at by Pottenger are the following:

1. A relative low blood-pressure is found in tuberculosis, especially in advanced cases.
2. The factors which favor low pressure are the effect of the toxins on the vasodilators, the weakness of the heart muscle and general wasting.
3. The factors which have a tendency to maintain pressure are hypertrophy of the heart muscle and thickening of the systemic arteries.
4. Thickening of the systemic arteries occurs perhaps as a result of the action of the toxins on the vessel wall and is found especially in patients who have had tuberculosis for some time.
5. Myocarditis is a condition very common in advanced tuberculosis and one which, if recognized, yields to appropriate treatment in many instances.
6. It is difficult to give an opinion on the heart tones in advanced tuberculosis because conditions surrounding the valves are changed by such things as infiltrations, cavities, emphysemas and contraction.
7. In the majority of advanced cases (ninety-nine out of one hundred and thirty) the heart is displaced and working at a disadvantage.
8. In estimating the size of the heart it must be remembered that as the heart pushes over to the left it pushes backward, and consequently the lateral diameter as taken on a level with the fourth interspace does not give an adequate idea of the real or true size of the heart; also that the hypertrophy of the right heart often throws the left ventricle backward, producing the same result.

52. **Influenzal Meningitis.**—Twin brothers became ill on the fifth day after birth; the cases ran an identical clinical course and terminated fatally on the ninth and eleventh days respectively after birth. There was little or no distinct clinical evidence of meningeal involvement. Autopsy on the first child revealed as the prominent lesions acute purulent leptomeningitis and acute enteritis. From the meningeal exudate and from the peritoneal fluid pure cultures of *Bacillus influenzæ* were obtained. The usual atria of infection—nasal cavity, tympanic cavities, lungs, bronchi and throat—were normal. Omphalitis was not present.

54. **Experimental Acute Pulmonary Edema.**—Summarizing the cardiovascular changes observed in the pulmonary edema produced by various chemical agents, Miller and Matthews notice a striking similarity. Generally there is a fall in the systemic pressure and a rise in pressure in the pulmonary artery. At the same time, the right side of the heart becomes dilated, the left remains normal in size or, as some have maintained, contracted. Pressure changes in the pulmonary artery are not necessarily associated with corresponding changes in the left auricle, since a rise in pressure in the pulmonary artery may be associated with a fall in pressure in the left auricle or *vice versa*. The authors' experimental work was undertaken with a view of determining the following questions: first, whether acute pulmonary edema, produced by other agents than those already tried, is associated with a rise in pressure in the pulmonary artery; second, to repeat the experiments with acetic ether, since in the previous work the acetic ether had been an exception, inasmuch as it produced pulmonary edema without an increase in pressure in the pulmonary artery; third, the value of various agents in controlling the development or modifying the course of acute experimental pulmonary edema.

Miller and Matthews found that when pulmonary edema develops after exposure to nitric oxid or ammonia, there is

no evidence that mechanical factors play a rôle; *i. e.*, they were unable to detect any evidence of disproportion between the working power of the two sides of the heart. The acute pulmonary edema following inhalation or intravenous injection of acetic ether is usually associated with evidence of disproportion in the working power of the two sides of the heart, as there is a fall in the systemic and a corresponding rise in pressure in the pulmonary artery. When large doses of acetic ether are injected intravenously, pulmonary edema may occur without evidence of disproportion in the working power of the two sides of the heart, thus showing that such changes are not essential for its appearance. It would appear, therefore, that mechanical factors are not responsible for the edema. In the acute pulmonary edema produced by iodids, there is in the beginning a marked rise in pressure in both the systemic and pulmonary circulation; later the systemic blood pressure falls, but the pressure in the pulmonary artery remains high.

This disproportion in the working power of the two ventricles was present in every instance; it would appear from these experiments, therefore, that the edema might be explained by mechanical agents, although not necessarily so. The intravenous injection of adrenalin chlorid, when preceded by ligation of the thoracic aorta, caused pulmonary edema. Apparently as a result of the great increase in the systemic blood pressure after such a procedure, the left ventricle is unable to empty itself completely; stasis and rise in pressure in the pulmonary artery follows. This is perhaps the mechanism of acute pulmonary edema in nephritis with hypertension. In the mechanical edemas, therapeutic measures to be of value should tend to equalize the work of the cardiac chambers. This may mean the use of vasodilators in some instances; in others, the use of drugs that stimulate the heart activity.

55. **Serodiagnosis in Syphilis.**—According to Swift, the Wassermann reaction is a fairly definite diagnostic measure. A positive reaction practically always means syphilis. Negative findings give only presumptive evidence of the absence of syphilis. The Bauer modification is not reliable because of the inconstant content of native hemolysin to sheep cells. A large anti-sheep hemolytic content will mask a partial complement fixation. The Noguchi reaction, Swift asserts, is more readily applied and is more sensitive than the Wassermann reaction. This increased sensitiveness, however, sometimes causes a positive reaction with non-specific serums which give a negative Wassermann reaction. Experiments now under way seem to indicate that this may be avoided by the use of inactive serum.

56. **Much-Holzmann Serum Reaction in Insanity.**—Practically all human serums possess the power, in a more or less pronounced degree, of inhibiting the hemolytic action of cobra venom on human blood corpuscles. A comparatively high degree of this power, which constitutes the basis of Much and Holzmann's reaction, is not strictly specific for any psychosis, being found with greater or less frequency in almost all psychoses and in the blood of a considerable percentage of persons who are apparently normal (8.1 per cent. in the series cited in this paper).

This reaction was present in more than half of Rosanoff's series of cases (57.9 per cent.) of dementia præcox. As it appears to be much more common in this condition than in any other, it may prove to be a diagnostic aid; it would seem, says Rosanoff, that the presence of this reaction in a psychosis should add, in the consideration of the diagnosis, some degree of probability in favor of dementia præcox. Of a series of fifteen typical cases of manic-depressive insanity not one gave a positive reaction, and in only one was the reaction doubtful, being clearly negative in all the rest. Two of the patients had recovered from their psychosis when their blood was examined. There is apparently no relationship between the Wassermann reaction and the Much-Holzmann reaction.

Iowa Medical Journal, Des Moines

October

57 Materia Medica and Pharmacology. C. S. Chase, Iowa City.
58 The Therapeutic Problem and the Young General Practitioner. J. C. Cooper, Villisca.
59 Alkaloidal Therapy. G. H. Sumner, Waterloo.
60 Atoxyl and Other Remedies in Treatment of Diseases of Children. A. Staples, Dubuque.
61 Organotherapy and Serotherapy to Date. E. T. Kegel, Walcott.
62 Bacterial Vaccines. H. Albert, Iowa City.
63 *The Lemniscus Temporalis et Occipitalis. H. J. H. Hoeve, Des Moines.

63. **The Lemniscus Temporalis et Occipitalis.**—Under this name, Hoeve describes a hitherto undescribed bundle of brain fibers forming a direct connection with the cortex of the lobus temporalis et occipitalis. The bundle in question is a large bundle of fibers which leaves the mid-brain at a point supero-lateral to the corpus mamillare, just internal to the upper part of the pedunculus cerebri. It lies directly superior to the radix medialis tractus optici and supero-internal and infero-external to the pars occipito-temporalis commissuræ anterioris. It curves backward around the pedunculus cerebri in close contact with it. It is a cord-like bundle which is round in its anterior part and considerably flattened from side to side posteriorly. It can readily be exposed if a brain is placed with its base upward, the pia removed from the substantia perforata posterior, the lower part of the lobus temporalis removed, the tractus opticus reflected backward and the corresponding pedunculus cerebri reflected outward and backward, after being cut just above the pons.

St. Louis Medical Review

September

64 The State Laboratory as a Safeguard to the Public Health. G. McConnell, St. Louis.
65 Diagnosis of Cholecystitis and Cholecystitis Calculosa. B. Robinson, Chicago.
66 The Compressible Tube Treatment of Gonorrhea. W. Karo, Berlin, Germany.

Northwest Medicine, Seattle

October

67 State Care of the Insane. A. W. Frater, Seattle.
68 *State Care and Treatment of the Insane. J. W. Givens, Orofino, Ida.
69 *Expression of Cataract in Its Capsule. H. V. Würdemann, Seattle.
70 General Treatment of Wounds. E. F. Tucker, Portland, Ore.
71 Diagnosis and Treatment of Fractures, L. H. Hamilton, Portland.
72 *Tobacco Toxemia. R. V. Dolby, Vancouver, B. C.
73 *Abscess of Kidney Diagnosed as Empyema of Gall-Bladder. C. W. Sharples, Seattle.
74 Treatment of Patients Preparatory to and Immediately Following Operation. P. W. Willis, Seattle.
75 Do Protozoan Disease Germs Exist in British Columbia? B. D. Gillies, Vancouver, B. C.
76 Diagnostic Value of the Wassermann Reaction. H. P. Marshall, Spokane.

68. **Care and Treatment of the Insane.**—Givens claims that the best way for the patients in a state asylum to obtain their food is by producing it themselves. Every state asylum should own and operate one or more large farms. With such a farm with its gardens, orchards, vineyards, fields, meadows, flocks and herds, and the many patients needing employment, the entire state asylum population can live on the very fat of the land and with very little cost to the taxpayers of the state. The farm thus serves a triple purpose. It affords to the patient a great variety of interesting healthful employment for body and mind. It gives him the best possible food. It relieves, to a considerable extent, the taxpayer in supporting the state asylum. A great deal of the construction work of state asylums can be advantageously done by the patients. The grading, excavating, laying of water and sewer pipes, making brick, hauling building material on the grounds and attending to masons can be largely done by the patients. By selecting the more competent patients for such work, building can go along as patients increase without overcrowding and with small state appropriations.

69. **Expression of Cataract.**—Würdemann's experience has shown that where the 2/5 sclerocorneal section with conjunctival flap is made, delayed union is unknown, combined with a very small iridectomy and expression of lens; *i. e.*, the regular operation less a capsulotomy, in immature and hypermature cataracts, is the only all-round satisfactory operation. The ordinary run of mature cataracts may, perhaps, be as well operated on with less risk in the average hands by the generally adopted flap extraction with capsulotomy; cataract in children and traumatic cataract by discission. The least handling of the eye and the fewest instruments possible is the characteristic of this operation. It is

not an operation for a beginner, but it can safely be practiced by a skilled eye surgeon.

72. **Tobacco Toxemia.**—When the subject is examined, says Dolbey, even in a superficial way, it is evident that our most cherished beliefs are founded on misconceptions. Exact knowledge, once divorced from popular prejudice, shows that after the hookah, the cigarette is the least harmful form in which tobacco can be used. Chewing is without doubt the most pernicious form in which to employ tobacco. The pipe and cigar, far from being the safest medium for the indulgence of tobacco, are the most dangerous. Tobacco amblyopia, cardiac syncope, angina, loss of memory, tardy and delayed cerebration are found chiefly in heavy cigar and pipe smokers. The cigarette, hitherto considered so baneful, the one form of smoking which has been interdicted by special legislation, seems now to be responsible for cardiac irritability, largely in neurotic people, and an irritable laryngitis and pharyngitis alone. Even cancer of the lips or tongue, and without doubt tobacco is one only of the predisposing and irritating causes, seems to be the special heritage of the pipe or cigar smoker. The Indians and Mexicans, all inveterate cigarette smokers, though exhibiting some tendency to cancer of the breast or uterus, seem to show an exceedingly slight predisposition to cancer of the lips and tongue.

73. **Abscess of the Kidney.**—A man was running a high temperature and had pain under the right costal cartilages going through to his back. He was apparently septic. To moderately deep pressure he was tender over the right rectus in the upper part, which was not rigid; and, on hooking the finger under his ribs and asking him to take a long breath, he stopped short on account of the pain it produced. A diagnosis of empyema of the gall-bladder was made. At the operation, no disease was found in or around the gall-bladder, but the kidney was found to be enlarged. The abdominal wound was closed and a lumbar incision made, when it was found there was a large abscess in the upper half of the kidney, on the posterior surface; and so superficial was the pus that during the operation the abscess was evacuated.

Surgery, Gynecology and Obstetrics, Chicago

October

77 *Later Results of Ovariotomy, Especially in Cases of Doubtful Character. Prof. Hofmeier, Würzburg, Germany.
78 *The Rôle of Heart Massage in Surgery. C. S. White, Washington, D. C.
79 *Checking the Secretion of the Lactating Breast. H. J. Storrs, Baltimore.
80 *What is the Preferable Time for Abdominal Operation for a Chronic Inflammatory Mass in Pelvis. H. S. Crossen, St. Louis.
81 Evolution of Ovariotomy in France. S. Pozzi, Paris, France.
82 Esophagoscopy and Gastroscopy in Diagnosis. B. A. Thomas, Philadelphia.
83 Bone Sarcoma. L. Buerger, New York.
84 Data Acquired with the Aid of the Ureteral Catheter. W. F. Braasch, Rochester, Minn.
85 Anesthetics in Hospitals and Private Practice. J. T. Gwathmey, New York.
86 Experiences in Cranial Surgery. C. A. Elsburg, New York.
87 Inguinal Hernia of the Rudimentary Horn of the Uterus and Adnexa in an Infant with External Genitals of an Intermediate Type. H. Upcott, Hull, England.
88 New Operation for Radical Cure of Femoral Hernia. B. B. Cates, Knoxville, Tenn.
89 Method of Closing Abdominal Wounds Without Using Buried Sutures. G. Torrance, Birmingham, Ala.

77. Abstracted in THE JOURNAL, May 15, 1909, p. 1615.

78. **Heart Massage in Surgery.**—Of fifty cases reported, including two of White's, 20 per cent., or ten patients, were saved. One of White's patients died on the eleventh day, of an affection in no way connected with massage of the heart. Eight of the ten patients were saved by subdiaphragmatic massage, two by direct, and none by transdiaphragmatic massage. Fourteen patients were partially revived, living from thirty minutes to twenty hours, death in several instances being due to a toxemia of an unknown etiology. It appears that the subdiaphragmatic method has surpassed the earlier methods in percentage of recoveries. Heart massage is an established method of resuscitation, and inasmuch as heart failure is rarely primary in chloroform anesthesia, it is essential that respiration be invoked by artificial means in conjunction with heart massage. Artificial respiration alone will not inaugurate heart contractions nor maintain blood pressure. The best results have been obtained by the subdiaphragmatic method. The most frequent indication for its use is in chloroform narcosis with cessation of respiration and circulation. In other conditions of heart failure secondary to respiratory failure and not dependent on organic changes in the heart, the method is applicable. Further, use of the method will widen its field of usefulness. The possibility of resuscitation bears a definite relation to the time that has elapsed between the cessation of the heart beat and massage. The briefer the interval the more rapid is the response to the massage.

79. **Checking the Secretion of the Lactating Breast.**—Since 1904, the obstetric staff of the Johns Hopkins Hospital has employed a simple method of checking the lacteal secretion in women who could not suckle their children for one reason or another. This method was first used by Dr. Edwin R. Lewis of Westerly, R. I. It consists in the administration of from 15 to 20 grains of acetate of potassium in water three to four times a day, associated with small doses of codein or morphin, if the breasts are painful, and has proved so satisfactory that Dr. Lewis has not found it necessary to use a breast pump, to apply a binder, or to make any medicinal application to the breasts for nearly twenty years. Under this treatment, the breasts become more or less acutely engorged on the second, third or fourth day after labor on the discontinuance of suckling, but the condition passes off spontaneously within twenty-four hours if the breasts are left absolutely alone, after which they gradually become softer and smaller and secrete less and less milk, so that the secretion entirely disappears by the end of the week. Storrs says that not a single case of mammary abscess has occurred in the hospital since this method of checking the lacteal secretion has been in vogue. This series of cases comprises patients in all stages of lactation—from that following premature or full term delivery to cases in which it has persisted for some months or even a year. In no instance did mammary abscesses develop in spite of the fact that some of the women were harboring more or less serious infection. Occasionally one breast was the seat of a mastitis at the time of admission, yet the other would dry up as spontaneously under treatment.

80. **Chronic Inflammatory Mass in Pelvis.**—A careful study of personal and recorded cases leads Crossen to say that in more than half of the cases of chronic suppuration in the pelvis, the pus is sterile at the time of operation—showing that sterilization of the infected focus takes place automatically within a reasonable time in the majority of cases. Abdominal removal of the mass while the bacteria are active and virulent, results in fatal peritonitis or localized infection in many of the cases. Abdominal removal of the mass after the bacteria are dead or greatly attenuated, is almost never followed by infection, even though there is an extensive escape of pus into the pelvis. Hence, abdominal operation for a chronic inflammatory mass in the pelvis should not be undertaken before the period of probable sterilization, except in those rare cases in which, in spite of palliative measures, the patient's life is threatened by the severity of the inflammation, and the infected focus cannot be satisfactorily drained extraperitoneally. The time required for the death of the bacteria or effective attenuation varies greatly in different cases. The persistence of virulence depends largely on the character of the infection. In a case that is clearly streptococcic, abdominal section is never safe. Even when the temperature and pulse are normal and everything quiescent, intraperitoneal operation for the mass is liable to cause the patient's death from streptococcal peritonitis. In a case that is doubtful a most careful study should be made of all the features of the case and every helpful diagnostic method should be brought into use to aid in reaching a positive conclusion. No intraperitoneal operation should be undertaken until the streptococcus is excluded with reasonable certainty. In a doubtful case in which the abdomen is opened on the supposition that the mass is tubo-ovarian and it is found, before adhesions are much disturbed, that the mass is principally in the connective tissue, the route of attack should be changed to extraperitoneal and the adbdominal wound closed. Such a lesion probably contains streptococci, and the adhesions of omentum and bowel, which caused the deceptive mass high

in the tubal region, constitute Nature's barrier between the virulent bacteria and the peritoneal cavity. When this barrier is broken down, the way is opened for a fatal peritonitis.

Atlanta Journal-Record of Medicine

September

90 Study of Three Hundred Cases of Smallpox. M. Crook, Columbus, Ga.
91 Symptoms of Hydrophobia as Presented in Domestic Animals and Man. J. N. Brawner, Atlanta.
92 Surgical Treatment of Prostatic Hypertrophy and Abscess. G. Torrance, Birmingham, Ala.
93 Case of Systemic Blastomycosis. J. L. Campbell, Atlanta.
94 Kidney of Pregnancy. J. B. Cranmer, Wilmington, N. C.
95 Angioneurotic Edema. W. J. Love, Opelika, Ala.

Journal Kansas State Medical Society, Kansas City

October

96 *Injuries of the Spinal Cord Due to Accident. O. D. Walker, Salina.
97 Treatment of Heart Disease. R. C. Lowman, Kansas City.
98 The Air as a Carrier of Infection. I. H. Hyde, Kansas City.
99 *Peliosis Rheumatica. F. W. Shaw, Kansas City.

96. **Injuries of Spinal Cord.**—Walker reviews the clinical history of spinal cord injuries and reports four cases.

99. **Peliosis Rheumatica.**—The following was the course of the disease in the case reported by Shaw: March 22, 1909, a hemorrhage appeared over the dorsal surface of the left index finger at the distal articulation. At the same time, there developed an edema of both hands and arms. The elbow joints, wrists and joints of the hand became painful. March 23, other hemorrhages, in the form of purpura, appeared over all the joints of the right hand, the larger number of hemorrhages appearing on the palmar surface. A few hemorrhages appeared over the wrist-joint and one over each elbow. March 25, the hemorrhage became bullous and the tissue at the site of the first hemorrhage became necrotic. April 2, the edema began to disappear from the hands and arms, and it was noticed in the feet and legs. April 3, hemorrhages appeared over the small joints and outer aspect of the feet, and over the tarsal articulations; also a hemorrhage over the coccyx, three inches in diameter, one over the calf of the left leg, two inches by five inches, and one into the left side of the tongue, uvula and soft palate.

At this period, swallowing became so painful that it was very hard to get the patient to partake of liquids. The pain in the joints, especially the larger ones, was so acute that he could not be moved without crying out. During the first two weeks the temperature ranged between 99 and 104 F.; it dropped to normal on April 5. The throat symptoms disappeared, and the patient began to eat heartily. April 5, the hemorrhages of the feet became bullous, the largest being on the outer aspect of the right foot, involving about half of the upper and lower surfaces. This began to slough on April 17, and the edema to disappear.

A line of demarcation had formed on April 23, and the edema had disappeared entirely from the left foot and leg, the skin being very dry and hard. A small portion of the tongue and uvula sloughed away. The pains and the swelling of the joints began to diminish about April 20, and had disappeared almost entirely by May 1. At this time there remained the large slough, which was gradually healing on the right foot. Large numbers of eosinophilic leucocytes were found in the blood from the bullæ. Albumin appeared in the urine, but there was no blood. Sodium salicylate was given in the early stage of the disease but, on account of the throat symptoms, it was discontinued. The only other remedy given was sherry.

Journal New Jersey State Medical Association

October

100 *Indications for the Induction of Labor, Instrumental Delivery Through the Vagina and Cesarean Section. E. P. Davis, Philadelphia.
101 *Indications for Interference During Labor. S. Marx, New York.
102 Pyelitis and Allied Conditions in Children. L. C. Ager, Brooklyn.

100, 101. Abstracted in THE JOURNAL, Aug. 21, 1909, p. 649.

Ameican Journal of Orthopedic Surgery, Philadelphia

August

103 *Use of Animal Membrane in Producing Mobility in Ankylosed Joints. W. S. Baer, Baltimore.
104 Arthrotomy in Treatment of Tuberculous Joints, Particularly the Knee-Joint. V. P. Gibney, New York.
105 *Simple Dressing for Treatment of Tuberculous Disease of Shoulder-Joint. A. J. Gillette, St. Paul.
106 Bismuth Paste Treatment of Tuberculous Sinuses. J. Ridlon and W. Blanchard, Chicago.
107 Toxic Arthritis of the Hip-Joint in Children. M. Hoke, Atlanta, Ga.
108 Congenital Dislocation of the Hip. E. H. Bradford, Boston.
109 Joint Cartilage in Its Relation to Joint Pathology. P. W. Nathan and W. W. Strang, New York.
110 Modified Whitman Brace for Calcaneus. H. O. Feiss, Cleveland.

103. Abstracted in THE JOURNAL, Aug. 7, 1909, p. 478.

105. **Dressing for Tuberculous Diseases of Shoulder Joint.**—The principle of Gillette's dressing is simply placing a roll of cotton in the axilla large enough to make outward pressure on the upper end of the humerus, and securing it there by the use of a spica bandage. This acts as a fulcrum, so that the weight of the arm and the forearm relieves the intra-articular pressure. The advantage in using this dressing is that it permits of use of the arm in almost any occupation, except, possibly, in very acute stages, is comfortable for the patient, and meets every indication so far as relief of pain is concerned, and relieves intra-articular pressure. While it does not assure continuous rest, the patient is able not only to dress and undress himself without causing pain, but can execute almost any movement.

Buffalo Medical Journal

October

111 Referee Board on Benzoate of Soda. C. A. L. Reed, Cincinnati, Ohio.
112 Surgical Treatment of Cancer of the Rectum. C. H. Leaf, London, England.

Quarterly Bulletin Northwestern University, Chicago

September

113 Investigations on the Irritating Effects of Cathartic Drugs. I. A. Abt, Chicago.
114 Differential Diagnosis of Pathologic Conditions of the Bones and Joints by the Roentgen Rays. B. C. Cushway, Chicago.
115 Calculus of the Ureter. C. M. Fox, Chicago.
116 *Experiments with "Graupner's Test" for Estimating Functional Power of the Cardiovascular System. L. J. Osgood, Chicago.
117 Case of Leontiasis Ossea. J. J. Cole, Chicago.
118 Case of Trifacial Neuralgia. D'O. Hecht, Chicago.
119 *Preputial Frenum; Its Surgical Importance. V. D. Lespinasse, Chicago.

116. **Graupner's Test.**—Osgood believes that Graupner's test would be of great assistance in estimating the functional power of any heart muscle. It would have to be limited in its use, however, to cases in which compensation was not too bady broken. It would be of value in cases in which one was not able to demonstrate any gross lesion, but in which there seemed to be some degree of cardiac weakness. The blood pressure is of just as much clinical importance in treating a case of cardiac or renal disease as is the pulse rate or any other data which can be obtained by physical examination, and, therefore, a blood-pressure reading should be taken every day in order to treat scientifically any case of cardiac or renal disease.

119. **Preputial Frenum.**—Lespinasse holds that the preputial frenum has no physiology, but that it plays an important rôle in the pathogenesis of penile disease. He advocates its removal as a routine in all circumcisions and other penile operations when it can be done easily and without increasing the risk.

Denver Medical Times and Utah Medical Journal

October

120 Etiology of Trachoma. E. O. Sisson, Denver.
121 Mobility and Malposition of the Heart. C. B. Van Zant, Denver.
122 Antepartum Hemorrhage. M. D. Healy, Denver.
123 *What the Physician who has no *X*-Ray Should Know About It. N. M. Eberhart, Chicago.
124 Treatment of Goiter. W. S. Yates, Capron, Okla.
125 Venereal Diseases. F. Clift, Provo, Utah.

123. This article has been published in the *Medical Fortnightly*, August 25, the *Medical Summary*, September, and the *Milwaukee Medical Journal*, September, 1909.

American Medicine, New York

September

126 The Postoperative Patient. J. F. Erdmann, New York.
127 Early Diagnosis of Gall-Stones and the Importance of not Postponing Surgical Interference Until Serious Pathologic Changes Have Taken Place. J. E. Summers, Omaha, Neb.

128 Rectal Examinations. C. J. Drueck, Chicago.
129 Muscle Anomalies. H. E. Radasch, Philadelphia.
130 Timidity and Insanity (concluded). M. K. Isham, Columbus, Ohio.
131 Diagnosis of Adenoids in Children and Adults. H. Hays, New York.
132 Eye Changes in Bright's Disease. R. Kalish, New York.
133 The Doctor in Politics. T. H. Dexter, Brooklyn.
134 *An Easy and Efficient Method of Treating Carbuncles and Furuncles. J. A. Keown, Lynn, Mass.

134. **Treating Carbuncles and Furuncles.**—For the smaller carbuncle Keown applies a drop of liquefied carbolic acid, about 95 per cent. strong, to the very top of the carbuncle in its early stages. After a few moments it is washed off with water or alcohol. For the larger carbuncles the carbolic acid is pricked into them with a wooden toothpick. For the still larger ones, with considerable swellings, redness and induration, a crucial incision is made in the carbuncle under cocain and not extending more than from one-quarter to one-half inch in either direction. The carbolic acid is applied on a toothpick with a small amount of cotton and the whole inside of the carbuncle painted with the 95 per cent. carbolic acid. This is washed with a corrosive sublimate solution and a corrosive dressing applied. The patient is given corrosive sublimate tablets and directed to dress the whole surface of the neck two or three times a day, being very careful to destroy all the old dressing and to wash the hands before and after each application.

The patient is directed to return the next day, but if any new carbuncles appear they are to be treated as above directed. In the course of a few days the carbuncle stops forming and the old ones rapidly improve and the patient is well in a short time. Explicit directions are given to the patient to guard against reinoculation of various parts of the body by the fingers. The patient is ordered nourishing diet, is directed to stay in the sunshine, to avoid work, and to practice other hygienic methods. He is also directed to take, if in a very run-down condition, the compound syrup of hypophosphites. In no case has Keown met with any poisonous effect from the use of carbolic acid applied in this way.

Ophthalmology, Seattle

October

135 Requirements and Regulations of Signalling by Color. C. A. Oliver, Philadelphia.
136 *The Expression of Cataract in its Capsule. H. V. Würdemann, Seattle.
137 Capsule Forceps in Cataract Extraction. F. Tooke, Montreal.
138 Unusual Complications Occurring During and Following the Extraction of Cataract. C. A. Veasy, Spokane.
139 The Surgical Treatment of Strabismus. H. F. Hansell, Philadelphia.
140 Genesis of Conjugate Deviation of the Eyes. H. Rönne, Copenhagen, Denmark.
141 Etiology of Iritis. C. W. Jennings and E. Hill, Philadelphia.
142 Value of the Ocular Reaction to Tuberculin. C. Zimmermann, Milwaukee.
143 Spontaneous Serous Cyst Floating Free in the Anterior Chamber. J. N. Roy, Montreal.

136. See Abstract No. 69.

West Virginia Medical Journal, Wheeling

October

145 Water-Borne Diseases. S. L. Jepson, Wheeling.
146 Cardiac Asthma: Cheyne Stokes Respiration, Bradycardia, Adams-Stokes Syndrome. L. D. Wilson, Wheeling.
147 Fractures. A. P. Butt, Davis.
148 Deformities of the Bones of the Face. J. C. Archer, Wheeling.
149 The Nose and Throat, in Relation to Tuberculosis. M. O. Fisher, Parkersburg.

Louisville Monthly Journal of Medicine and Surgery

October

150 Acute Cardiac Dilatation. J. G. Cecil, Louisville.
151 Duty of the Surgeon in Apparently Hopeless Cases. A. M. Vance, Louisville.
152 Carcinoma of Uterus; Renal Calculus. L. Frank, Louisville.

New Orleans Medical and Surgical Journal

October

153 Dietetic Management of Tuberculosis. G. M. Niles, Atlanta.
154 Pneumococcus Empyema. J. F. Oechsner, New Orleans.
155 Purpura Rheumatica with Angioneurotic Edema and Visceral Crises. I. I. Lemann, New Orleans.
156 Case of Pellagra. R. M. Van Wart, New Orleans.
157 Emergency Operation in the Country. L. D. McGehee, Hammond, La.
158 Goiter. G. Dock, New Orleans.
159 Experiences in Staining Bacteria in Fresh Blood. M. P. Burnham, Harrisburg, Va., and R. Lyons, New Orleans.
160 Therapeutics of High-Frequency Currents. A. Henriques, New Orleans.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

October 9

1 Experimental Research and Medical Progress. Sir J. Tweedy.
2 Complement Fixation. J. F. Flashman and A. G. Butler.
3 *Alcohol in Relation to Multiple Neuritis. J. S. Bury.
4 *Paroxysmal Tachycardia Disappearing After an Attack of Herpes Zoster. A. C. Turner.
5 Traumatic Rupture of the Small Intestine; Suture and Appendicostomy; Recovery. F. Radcliffe.
6 The Treatment of Endometritis. E. H. Tweedy.
7 Ovarian Tumor. Clinically Malignant, Arising from the Overgrowth of Lutein Cells. S. Savage.
8 Treatment of Contracted Pelvis. Prof. Fehling.
9 Dystocia Due to Ventrofixation of the Uterus. M. Cameron.
10 Development of the Epithelial Elements in the Ovary. A. L. McIlroy.
11 Treatment of Graver Forms of Puerperal Sepsis. T. Wilson.
12 Midwifery in Private Practice. J. J. Austin.
13 Uterine Cancer Complicating Pregnancy. C. Lockyer.
14 Inoculation Treatment of Tuberculous Arthritis. M. Smith.
15 *Treatment of Bronchial Asthma by a Vaccine. D. W. Carmalt-Jones.
16 *Treatment of Pneumonia by Inoculation. W. H. Willcox and W. P. Morgan.
17 Autoinoculation in Pulmonary Tuberculosis. M. Paterson.
18 Typhoid Carriers. T. Houston.
19 The Antitryptic Index. F. L. Golla.
20 Genesis and Treatment of the Malignant Tumors. Prof. Sanfelice.
21 The Microbe of Whooping Cough. Prof. Bordet.
22 Treatment of Club-Foot. R. Jones.

3. **Alcohol and Multiple Neuritis.**—Whether the neuritis is a direct or an indirect result of the poison, there is in Bury's opinion ample evidence to justify the view that well-marked cases of multiple neuritis (although not common) are produced more frequently by alcohol than by other poisons.

4. **Paroxysmal Tachycardia.**—Turner's case in most of its features agrees with one or other of the recorded cases, the variations being chiefly in minor and unessential details. The termination of the original attacks in vomiting and the artificial cutting short of subsequent ones, by the administration of emetics, is interesting. The feature which in this case seems most unusual is the coincidence of an outbreak of herpes zoster of the left second dorsal area with complete cessation of the heart attacks. Turner suggests that possibly it is no more than a coincidence in the popular sense of the word. Cases of paroxysmal tachycardia do cease spontaneously, and it is possible that in this case the cessation may only be a temporary one and that further attacks may occur later. On the other hand, the fact that the second left thoracic nerve is very closely associated with the nerve supply of the heart, and particularly with its accelerator fibers, and the fact that previous to the outbreak of zoster the heart attacks had recurred fairly regularly every two months for ten years, seem to suggest that the two things are related.

15. **Treatment of Bronchial Asthma by Vaccine.**—Carmalt-Jones suggests that one cause of spasmodic dyspnea in chronic bronchitis is a specific bacterial toxin, the result of a definite infection and amenable to treatment by the corresponding vaccine. In 1907, while making some investigations into the bacteriology of chronic bronchitis, he isolated a certain organism in nearly pure culture from the sputum of a female patient. He took her opsonic index to this, and finding it low, suggested inoculation, to which she agreed. She was given a dose of 25 millions hypodermically, and was instructed to come back in two days. She suffered severely from bronchial asthma. On her return she said that though her cough was no better her breathing had been much relieved. Carmalt-Jones used the same vaccine extensively among patients suffering from bronchial asthma, in about 70 cases in all, and of these he has collected 52, who gave the experiment a fair trial, that is, who attended for inoculation at least twice. Taking results as a whole, 31 patients have found some degree of improvement in the frequency, and 39 in the severity of their attacks; 26 have improved in their powers of taking exercise, and 29 have slept better. In some cases improvement has been slight and in others temporary. In 4 patients no improvement at all has resulted.

16. **Treatment of Pneumonia by Inoculation.**—Willcox and Morgan report two cases in which they studied the clinical effects of inoculation. They found that there was a definite

improvement in the clinical symptoms of the disease, thus there was often an immediate fall in the temperature, and the dyspnea and delirium became less after a dose of vaccine. The duration of the disease appeared in some cases to have been shortened; thus in one case the crisis occurred on the second day, in one on the third day, in one on the fourth day, and in 3 cases on the fifth day after the onset. In some cases, instead of a fall in temperature by crisis, the fever subsided by lysis; this happened in 8 cases, a rather larger proportion than would have been the case without vaccine treatment. The most striking and convincing evidence of the benefit derived from vaccine treatment was shown by those cases which ran a protracted course. The beneficial effects of vaccine were most striking, and these results could have been due to no other cause, since all the usual therapeutic measures had previously been adopted with no result. In two of their cases, while the ordinary stock vaccine gave no benefit, an autogenous vaccine almost immediately produced most striking effect, the symptoms rapidly clearing up.

Lancet, London

October 9

23 Causation in Health and Disease. F. Moulton.
24 Theories. H. A. Miers.
25 Importance of Athletic Games in the Formation of Character and the Advantages of Anatomy as a Disciplinary Study. Sir T. C. Allbutt.
26 Progress in Education. I. Owen.
27 Progress in Medicine. Sir J. Tweedy.
28 Walking the Hospital. J. S. Goodall.
29 *Clinical Significance of Albuminuria. N. Tirard.
30 *Investigation into the Etiology of Erysipelas, and Allied Infections. P. N. Panton and J. E. Adams.
31 Syphilitic Reinfection Nine Years After; Syphilitic Immunity. H. Dardenne.
32 *Corneo-conjunctival Bridge; New Method of Cataract Extraction. N. G. Cluckie.
33 The Poor-Law Medical Service; Coming Legislation. W. Holder.
34 Vaccination Acts and the Growth of Conscientious Objection. L. B. Cane.

29. **Clinical Significance of Albuminuria.**—According to Tirard, a large amount of albumin, without blood or pus, may generally be taken to indicate chronic tubal nephritis, and this can be confirmed by a high specific gravity, by microscopic examination, and by the appearance of the patient. A very small trace in an elderly or middle-aged man will probably indicate chronic interstitial nephritis; confirmatory evidence can be found in the aspect, the history, the pulse tension and tracing, the outward displacement of the cardiac impulse, the accentuation of the systolic apical sound, and the accentuation and reduplication of the second sound at the base of the heart. These indications may be further supported in some cases by the pale color and low specific gravity of the urine; less frequently information may be gathered from the presence of casts and from their predominant characteristics. The absence of casts is not, however, to be regarded as an indication that the case is not one of chronic interstitial nephritis. In a young man a mere trace of albumin may be the only evidence of a functional albuminuria, and the diagnosis must then rest on negative evidence to a large extent, one of the most important factors being the relatively high specific gravity, unless this has been influenced by nervousness or by the recent consumption of a large quantity of liquid. With the same limitations the deep color of the urine will lend confirmatory evidence. After all, albuminuria is merely an indication of an abnormal condition, it is not a disease.

30. **Etiology of Erysipelas.**—Panton and Adams define erysipelas as an acute inflammation of the epidermis due to the presence of one of the organisms of the streptococcus class, of which the *Streptococcus pyogenes* is the most frequent example. Cellulitis appears to be a strictly comparable inflammation of the cellular tissues, and when the inflammatory processes involve both the epidermis and the cellular tissues the condition of cellulo-cutaneous erysipelas results. Acute lymphangitis would seem to be a less virulent infection, due, as a rule to organisms of the staphylococcus class, with a greater tendency to spread, as its name implies, by the lymphatic system. Erysipelas is not, in the true sense of the term, a specific disease, since it may be produced by a variety of organisms, and these organisms are capable of producing other diseases in other parts of the body.

32. **New Method of Cataract Extraction.**—The modification to which Cluckie directs attention consists in performing von Graefe's operation up to a point that leaves a connecting flap between the cornea and the conjunctiva about four millimeters broad. Instead of completing the corneal section in the usual fashion the Graefe knife is carried further up under the bulbar conjunctiva for from 10 to 12 millimeters and is then withdrawn without cutting through the conjunctiva. There is thus a corneo-conjunctival bridge, which may be broad or narrow, but the broader and longer the conjunctival attachment to the cornea, the greater the chances of success and speedy recovery. Cluckie claims that by means of this corneo-conjunctival bridge, the continuity between the cornea and the conjunctiva being maintained, the nourishment of the cornea is not interfered with to the same extent as in the usual method, where complete division is carried out. Moreover, the parts are kept in more accurate apposition, thereby favoring rapid and certain union. From this it follows that the anterior chamber will be re-established in a shorter period.

Bristol Medico-Chirurgical Journal

September

35 Referred Cardiac Pain. F. G. Thomson.
36 Tuberculosis of the Colon. E. W. H. Groves.
37 Theoretical Considerations of Pulmonary Percussion Notes G. H. Almond.
38 Technic of the Radical Operation for Chronic Purulent Otitis-Media. P. W. Williams.
39 Sleep and the Modern Hypnotics. J. M. Fortescue-Brickdale.
40 Safety of the Patient in Anesthesia. J. Freeman.

The Journal of Hygiene, London

September

41 House-Flies as Carriers of Disease. J. T. C. Nash.
42 The Bleaching of Flour. W. D. Halliburton.
43 Evolution of Immunity in Disease. L. Noon.
44 *Absence of Respiratory Disorders in Those Inhaling Starch Dust Over Long Periods. W. P. Kaufmann.
45 *Influence of Heating on the Nutrient Value of Milk as an Exclusive Diet for Young Animals. J. E. Lane-Claypon.
46 Multiplication of Bacteria and the Influence of Temperature and Some Other Conditions Thereon. J. E. Lane-Claypon.
47 Physiologic Effect of Cobalt Carbonyl Vapor. H. W. Armit.

44. **Starch Dust.**—It is evident from Kaufmann's observations that while protracted inhalations of flour dust induce morbid changes in the respiratory system, those of starch granules (maize) practically in a pure state appear to exert no such adverse influence, *per se*. However, in cases in which an illness is not completely recovered from, a depression of vitality is maintained, and other intercurrent diseases may supervene as a result. The reason for this is strongly indicative that flour dust, on account of its glutinous content, and the nature of the gluten, forms an intractable dough with the body juices, and is converted into a mass which, not being amenable to lysis, remains behind, and becoming a "foreign body," sets up irritation of the parts. On the other hand, starch granules, *per se*, as in relatively pure maize starch granules, or even admixed with a very large preponderance of maize, "gluten," not tending to form a dough, are easy of access to, and are rapidly removed by some agency, and are not given the opportunity to become a foreign body and to set up irritation.

45. **Nutrient Value of Milk.**—Lane-Claypon found by experimentation that when the milk of another species is used, there is no marked nutritional difference between raw, boiled, or even sterilized milk.

British Journal of Children's Diseases, London

September

48 Congenital Heart Affections, Especially in Relation to the Diagnosis of the Various Malformations (continued). G. Carpenter.
49 Irreducible Intussusception in the Infant Treated by Ileo-colic Anastomosis. H. Rutherfurd.
50 Hyperpyrexia Occurring in Childhood. J. Burnet.
51 The Differences Between the Sexes in the Development of Speech. E. Jones.
52 Existence and Results of Treatment of Pulmonary Tuberculosis in Children of School Age. E. G. H. Williams.

Archives Générales de Médecine, Paris

July, LXXXIX, No. 7, pp. 385-570

53 *Radioactivity. Matout.
54 *Radium Treatment of Cancer. Dominici.
55 *Radium in Treatment of Nervous Disturbances. P. Touchard.
56 *Radioactive Mud in Therapeutics. (Application des boues radioactives en thérapeutique.) O. Claude.
57 *Radium in Gynecology. Fabre.

58 *Radium in Treatment of Cancer of the Esophagus. Guisez.
59 *Radium in Treatment of Skin Diseases. (Applications du radium au traitement des maladies cutanés.) O. Claude.

53-59. **Medical Application of Radium.**—This number of the *Archives* is devoted to ten monographs on the application of radium in the treatment of nervous and skin affections and cancer and in gynecology. They are profusely illustrated and were presented at a series of conferences on radium held at the Museum of Natural History, Paris, where Becquerel first discovered the radiographic properties of the salts of uranium in research on phosphorescence; this was soon followed by the discovery of radium by the Curies. The first radiographic impression of the kind is reproduced, with Becquerel's memoranda on the margin. Touchard reviews his experience with radium treatment of various organic nervous affections, the effect, he says, being like that of "an intelligent bistoury which makes its way to the lesion and attacks it directly, without violent traumatism and without disturbing the sound tissues." Its special field seems to be in affections of a neoplastic origin, lesions in which embryonal tissue predominates. The rays from radium seem to display much greater penetrating power than the Roentgen rays, he remarks, the interposition of bones not interfering with their penetrating power to the same extent. Among the patients treated were two with sciatica or tabetic pain in the pelvis, both of whom had been much improved by application of the radium. In some cases of syringomyelia also, the applications of radium seemed to have a favorable influence on the gait and power of movement generally, while trophic disturbances retrogressed and the patients gained in strength. Favorable experiences with radium in treatment of gynecologic affections are reported by Fabre, who ascribes the benefit to the relief of the congestive inflammation and promotion of absorption and transformation of effusions. The radium rays seem to have an elective action on gonococcal ovarian, tubal and joint affections, and do good service when operative measures are contraindicated or to supplement them. Guisez has had occasion to treat with radium a number of patients with cancer of the esophagus out of nearly 500 whom he has examined with the esophagoscope during the last six years. He applied the radium tube directly to the inoperable cancerous growth and found that the cancer shrank under the influence of the rays, restoring partial permeability and affording great relief. The radium treatment must be energetic, using 8 or 10 cg. of radium bromid, introducing it into the esophagus for direct contact with the growth, controlled with the esophagoscope.

Archives des Maladies du Cœur, etc., Paris

September, II, No. 9, pp. 499-544

60 *Case of Chloroma. L. Stiénon.
61 *Acquired Pulmonary Stenosis. (Rétrécissement pulmonaire acquis.) V. Courtellemont.

60. **Chloroma.**—Stiénon's patient was a young man of 22, with symptoms for two years, first merely vague pains in the left hypochondrium and then enlargement of the spleen, which subsided to normal size for a brief period under radiotherapy, but then enlarged again. Extreme weakness and emaciation were the main symptoms when the patient entered the hospital; autopsy revealed multiple chloromas in the heart, pleura, kidneys, meninges and brain. Study of the case and comparison with others on record confirm, he thinks, the assumption that chloroma is a pigmented leucosarcomatosis which at any moment may entail a subacute leucemia from invasion of the blood by the lymphoid elements.

61. **Acquired Pulmonary Stenosis.**—No symptoms on the part of the cardiovascular system had been noticed in the case reported except that running, as a child, had been impossible on account of the speedy "loss of breath." The stenosis was an accidental discovery, and certain features of the case suggest that an attenuated tuberculous infection was responsible for it. The patient was a young woman of 24, supposedly healthy.

Lyon Chirurgical, Lyons

October, II, No. 5, pp. 523-650

62 *Inflammatory Stricture of the Pylorus. (Des rétrécissements inflammatoires du pylore et spécialement des formes tuberculeuses.) E. Villard.
63 Surgical Treatment of Adherent Pericardium and Mediastinopericarditis. R. Leriche and G. Cotte.

62. **Inflammatory Strictures of the Pylorus.**—Villard has encountered during the last few years seven cases of a tuberculous affection of the pylorus assuming the form of hypertrophy of the tissues in one instance, of infiltration in two, and of sclerosis in the others. It is possible, however, that these different forms are merely different stages of a single process. Gastroenterostomy is the only treatment, he says, or possibly subpyloric gastroduodenostomy in case of a merely fibrous stricture with limited and retrogressing lesions. It is possible that other infections may be responsible for the inflammatory stricture in some cases, but this has not been proved to date. The curative effect of simple gastroenterostomy renders more extensive intervention superfluous, the prompt recovery after diverting the course of the chyme shows that simple gastroenterostomy answered all the indications in the cases reported. In one case a large inflammatory tumor at the pylorus simulated malignant disease and what was supposed to be merely a palliative gastroenterostomy was done, but the tumor then subsided entirely. Two years later, the patient returned with another tumor in the laparotomy wound which proved to be merely an inflammatory reaction around some suture threads left from the gastroenterostomy. A year later a similar tumor developed again, and the operation revealed that it was due to the same cause, an inflammatory reaction to the suture thread of the second operation. The tumor masses both times were merely secondary inflammatory processes which simulated actual neoplasms. It is reasonable to assume that a similar process might develop from similar causes in the pyloric region and elsewhere without the intervention of the tubercle bacillus or its toxins. In two other cases, nervous symptoms predominated—daily vomiting resisting all medical measures. Laparotomy revealed slight anatomic changes in the pylorus and the disturbances subsided after the gastroenterostomy.

Lyon Médical, Lyons

September 19, XLI, No. 38, pp. 461-500

64 Scarless Healing of Suppurating Glands. (Guérison sans cicatrice des adénites suppurées.) Biot.

Presse Médicale, Paris

September 29, XVII, No. 78, pp. 681-688

65 *Early Diagnosis of Congenital Dislocation of the Hip-Joint. (Diagnostic précoce de la luxation congénitale de la hanche chez le jeune enfant.) J. Gourdon.

65. **Early Diagnosis of Congenital Dislocation of the Hip.**—Gourdon protests against the term "congenital dislocation" as he believes that there is no dislocation until the child begins to use its limb. The child is born, he asserts, with factors that entail dislocation later. He gives two illustrations of a simple test by which it is possible to detect the presence of these factors before there is any actual dislocation, their discovery pointing the way to effectual prophylaxis. As the child lies on the sound side, the affected thigh is flexed on the pelvis and the leg flexed on the thigh, the knee being in contact with the table. By grasping the knee as it touches the table on which the child lies, the normal thigh can be twisted inward only a certain distance, not more than 60 degrees from the plane of the table. When the head of the femur is abnormally movable, it is possible to twist the thigh over to an angle of 90 degrees from the plane of the table. This sign of the exaggerated inward rotation of the femur is useful not only for forewarning of congenital malformation in the hip, but it also reveals disturbances in the joint resulting from other affections, such as infantile paralysis, etc., before there is any sign of displacement of the femur. Bade's sign of congenital malformation of the hip joint is the lack of symmetry between the folds in the inguinal region on each side, and Hoffa regards certain cracking sounds sometimes heard in the joint as suggestive of congenital malformation.

Revue de Gynécologie, Paris

August, XIII, No. 4, pp. 563-752

66 The Normal and Anomalous Hymen in Virgins. (La forme de l'hymen chez la fillette et la vierge adulte. Les fossettes hyménales. Les brides hyméno-vaginales.) F. Jayle.
67 Ovarian Fibroma. Vautrin and Hoche.
68 Para-appendiceal Pseudocyst in Broad Ligament. M. Froget.
69 Abnormal Blood Vessels in the Kidney in Relation to Hydronephrosis. (Les vaisseaux anormaux du rein et l'hydronéphrosé. E. Papin and F. Iglesias.
70 *Acute Hemorrhagic Pancreatitis. R. Leriche and L. Arnaud.

70. **Acute Hemorrhagic Pancreatitis.**—Leriche reports two new cases and adds comprehensive summaries of the cases that have been reported since 1906—a total of fifty-three. In his first case there was no trace of fat tissue necrosis observed at the laparotomy done on account of supposed peritonitis and occlusion; the pancreas was not examined. The true source of the acute hemorrhagic inflammation was not discovered until autopsy. The fat tissue necrosis in the second case attracted attention to the pancreas at once when the abdomen was opened. The pancreas was dilacerated and drained, but the patient succumbed the third day to hematemesis. The lessons that may be drawn from the entire material of 53 cases are to be presented in a later article for which this communication forms the basis.

Revue de Médecine, Paris

September, XXIX, No. 9, pp. 673-752

71 *Regional Atrophy of the Kidney. (L'atrophie scléreuse régionale du rein par thrombose artérielle.) W. Alexieff.
72 *Pathogenesis of Orthostatic Albuminuria. G. Turrettini.
73 Thirty-five Years in the Vaccination Service. Goldschmidt.
74 *Influence of Tincture of Cantharides on Permeability of Kidney in Epithelial Nephritis. Macaroff.

71. **Regional Atrophy of the Kidney.**—Alexieff describes a typical case of circumscribed sclerous atrophy of the kidney, of arterial origin, independent of any chronic inflammation of the organ. He discusses the points that differentiate this from regional atrophy due to an embolic infarct. Thrombosis of the renal arteries causes great variability in the amount of urine voided in the twenty-four hours; sometimes the amount drops to a fourth, and this oliguria persists for about four days, after which the amount of urine rapidly increases to the preceding quantities. In the case described, the amount of urine dropped abruptly to less than a quart and kept at this point for four days, after which it increased to the preceding average of two or three quarts. During this interval, the patient felt about as usual. There was no disturbance in the general health, except possibly a slight tendency to unusual nervousness, but there was considerable retention of chlorids during this period of oliguria. While the density of the urine increased, the chlorids dropped from 11.63 gm. to 3 gm. In a test of the permeability of the kidneys the elimination of the methylene blue was abnormally retarded; it did not commence until after ten hours, then continuing for six hours, after which all trace of the stain vanished from the urine for eighteen hours. Then elimination recommenced and continued strong until all the stain had been eliminated after another brief interval of suspension. Patients with this form of kidney disturbance usually present other signs of atheromasia of arteries of a certain size, especially those at the base of the brain, in the limbs, possibly also in the coronary or gastric arteries. A sudden decline, therefore, in the amount of urine voided, unaccompanied by uremic symptoms or signs of asystoly, should suggest the possibility of a focus of thrombosis in one or both kidneys. It is not accompanied by acute phenomena, sudden pain in the lumbar region or transient hematuria; the thrombotic process develops slowly without signs of insufficiency on the part of the kidney.

72. **Orthostatic Albuminuria.**—Turrettini noted albuminuria in four girls between 12 and 16, nervous and anemic, but the albuminuria disappeared when the girls remained in bed. There was nothing but the albumin to indicate anything wrong in the kidney or circulation. The albuminuria could be induced at will by inducing lordosis. During the years of most active growth the vertebræ are not supported so firmly as later in life, and the physiologic curve of the spine becomes exaggerated by the laxness of the ligaments, etc. This interferes with the circulation in the kidneys, the same causes operating, perhaps, to render the latter also abnormally movable. The patients with this form of albuminuria are generally inclined to nervousness and anemia—all probably the result of the excessive and possibly inharmonious growth of certain parts during these years.

74. **Treatment of Nephritis with Cantharides.**—Macaroff expatiates on the stimulating action of tincture of cantharides on the functioning of the kidney, enabling the organ to throw off the substances which in case of nephritis are usually retained in the organism. Very small doses, not over 4 or 5 drops of the tincture of cantharides, during the twenty-four hours, were given during seven or eight days, and the results in the eleven cases of subacute or chronic epithelial nephritis reported and two of interstitial nephritis, encourage, he thinks, the more general adoption of this method of treatment. The specific elements of the kidney tissue feel the effects of the cantharides most; this influence is manifested in an increased diuresis and increased elimination of chlorids and urea if the specific elements of the kidney are still capable of responding to stimuli. Of course this treatment is contraindicated in an acute process with much irritation, but in the subacute and chronic atrophic cases, when the permeability is becoming impaired, this treatment stimulates the torpid epithelial and interstitial cells to more active functioning. Small doses of the tincture, not more than from 1 to 5 drops a day, have no injurious action on the kidney tissue in these conditions.

Semaine Médicale, Paris

October 6, XXIX, No. 40, pp. 469-480

75 Gaseous Abscess Extending in Front of and Behind the Sternum, with Positive Agglutinating Findings for Anaërobes. (Abcès gazeux présternal et rétrosternal par infection anaérobique. Sérodiagnostic anaérobique.) A. Chauffard and J. Troisier.

Beiträge zur Klinik der Tuberkulose, Würzburg

XIV, No. 1, pp. 1-96. Last Indexed October 9, p. 1240

76 Experiences with the Intracutaneous Tuberculin Test. (Zur Verwertung der intrakutanen Reaktion auf Tuberkulin.) P. H. Römer and K. Joseph.
77 *Tuberculin Test by the Mouth. (Zur Diagnostik der Tuberkulose durch innerliches Einnehmen von Tuberkulin.) T. Sato.
78 *Hypersusceptibility Induced by Cutaneous Tuberculin Test. (Ueber Sensibilisierung bei der kutanen Tuberkulinreaktion.) V. Ellermann and A. Erlandsen.
79 Diagnostic Value of Various Early Symptoms of Tuberculosis. (Kritische Betrachtungen der Symptome der Lungentuberkulose, vorwiegend der Frühsymptome.) F. L. Baumann.
80 The Complement-binding Substance in the Serum of Tuberculous Children. (Zur Kenntnis der mit Tuberkulin komplementbindenden Stoffe im Serum tuberkulöser Kinder.) R. Fua and H. Koch.
81 *Agglutination Test on Tuberculous Children. (Ueber Agglutination bei tuberkulösen Kindern.) O. Grüner.

77. **Tuberculin Test by the Mouth.**—Sato reports the results of the tuberculin test by ingestion of the tuberculin, as applied to 12 healthy persons, 10 patients with phthisis, 1 with tuberculous peritonitis, and 16 with some non-tuberculous affection. He gave the tuberculin between 4 and 5 p. m., to ensure that the stomach was comparatively empty, commencing with 0.001 gm. "old" tuberculin in a capsule, and increasing the dosage as for the subcutaneous test. If no reaction is observed even with 0.01 gm. tuberculin, he regards tuberculosis as excluded. Among the various advantages of this technic are that the test can be made without the patient's knowledge. Positive findings were never obtained in the non-tuberculous, but, with two exceptions, constantly in the tuberculous. He gives a typical curve to show how the reaction to the ingestion of the tuberculin, paralleled to the smallest details the curve obtained by subcutaneous injection of tuberculin in the same patient during the following month. The only difference was that the febrile reaction to the largest dose was a little more pronounced by the mouth than by the subcutaneous technic.

78. **Hypersusceptibility Induced by Cutaneous Tuberculin Test.**—Ellermann and Erlandsen have called attention to the difference in the local response to different concentrations of tuberculin in proportion to the difference in the intensity of the tuberculous process. The technic of their graduated quantitative tests was mentioned in THE JOURNAL, May 15, 1909, page 1634. They here call attention to the change in the results obtained in some cases with these tests repeated after a certain interval, the change suggesting that the organism had acquired a special hypersusceptibility under the influence of the tuberculin used in the first tests. This anaphylactic action of the tuberculin was not manifested in the tuberculous-free organism. It was not confined to the part involved, but seemed to be a universal sensitization. It was pronounced in 84 per cent. of the 50 cases while a tendency was perceptible in 8 per cent. more. The degree of sensitization ranged from 10 to 1,000 per cent. An interval of a few days was required for its development, but the interval is shorter than that required for development of serum-anaphylaxis. The particulars of the comparative tests are tabulated.

81. **The Agglutination Test in Tuberculous Children.**—Grüner reports extensive research which shows that agglutination of killed and ground tubercle bacilli by diluted human serum must not be regarded as a specific phenomenon in the sense that it is dependent on the presence of some tuberculous lesion in the organism. But, at the same time, it cannot be a merely casual occurrence, as the agglutinating property can be enhanced by injection of bacillus substance in the form of "new" tuberculin or "bacillus emulsion." The fact of this influence maintains the interest for this agglutinating test although it has as yet no practical importance for the diagnosis and treatment of tuberculosis.

Berliner klinische Wochenschrift

September 27, XLVI, No. 39, pp. 1757-1796

82 *Cleft Palate. (Meine Erfahrungen bei 53 Gaumenspalt-Operationen mit technischen Mitteilungen.) C. Helbing.
83 *Deep Application of Heat by Electricity. (Zur Verwendung der Wärmedurchstrahlung; Thermopenetration.) V. Klingmüller and F. Bering.
84 *Hygroma of the Shoulder Bursa. (Zur Klinik der Reiskörperhygrome der Schulterschleimbeutel.) K. Hirsch.
85 Displacement and Transformation of Epithelium. (Epithelheterotopie und -metaplasie.) Munter.
86 Composition of the Opsonins. (Zum Bau der Opsonine.) H. Reiter.

82. **Operation for Cleft Palate.**—Helbing's article was presented at the recent international dental congress at Berlin; it reviews his experience in fifty-three cases, with success in 75 per cent. He has found that the speech seems to be better the younger the patient at the time of the operation, while the technic is no more difficult in children under three months if correspondingly small instruments are used. By an early operation the child escapes many dangers to which it otherwise would be exposed, defective feeding, choking, infections in the respiratory and digestive organs, and otitis. The mortality of young infants with cleft palate not operated on is extremely high. As a rule, he operates at two sittings.

83. **Deep Application of Electric Heat.**—In order to obtain the benefits of "thermopenetration" without burning the skin, Klingmüller interposes a sponge moistened with salt solution between the electrode and the skin. It is thus possible to pass a current up to 1 ampere through a joint. The results were not satisfactory in recent gonorrheal epididymitis, as the heat seemed to mobilize the gonococci, but gonorrheal joint affections seemed to be favorably influenced. The pain vanished in two sittings and the joint became more movable. Similar benefit was observed in old rheumatic joint affections.

84. **Rice-Body Hygroma of the Shoulder Bursa.**—In the case discussed by Hirsch the hygroma protruded both front and rear; the process was further remarkable by the lack of any fluid with the rice-bodies.

Centralblatt für die Grenzgebiete der Med. und Chir., Jena

September 25, XII, No. 17, pp. 641-688

87 *Intermittent Limping. (Ueber intermittierendes Hinken; Claudication intermittente Charcot's.) R. Köhler. Commenced in No. 15.
88 *Flatfoot in Its Relation to Nervous Affections. (Der Plattfuss in seinen Beziehungen zur nervösen Erkrankungen.) Muskat.

87. **Intermittent Limping.**—Köhler summarizes the conclusions of 149 articles from the literature, discussing the pathologic anatomy and differential diagnosis in particular. A number of terms have been suggested since Charcot borrowed from the veterinarians the new term "intermittent claudication," but later discarded it for "intermittent ischemic obliterative painful paralysis." Erbs calls it "intermittent angiosclerotic dysbasia;" Manteuffel prefers the term "arteriosclerotic rheumatism;" Grassmann "intermittent arteriosclerotic muscular paresis;" Higier "paroxysmal angiosclerotic myasthenia;" Determann "intermittent akinesia or dyskinesia," and Paul "angina cruris." Nineteen different affections with which it might be confounded are compared with it. The lack of the pulse in the arteries of the foot or leg should suggest this disturbance, confirmed by Roentgen findings of changes in the arteries of the foot, but the principal feature of this affection is the complete subsidence of disturbances during rest and their periodical return after exertion. In treatment, potassium iodid on suspicion of syphilis, and regulation of the diet to avoid foods that act on the vasomotors are important. Special attention should be paid to avoidance of cold-water "cures," overexertion and worry. Alcohol and tobacco should be avoided; some accept nicotin as the direct cause. Similar disturbances may be observed in the intestines and heart; when in the legs, there is intermittent limping; in the stomach and intestines there are paresis and meteorism; in the heart, sudden insufficiency or paralysis—all organs capable of sensory phenomena showing such in connection: cramps in the muscles, paresthesia in the skin, sense of oppression in the heart region, with more or less pain. Wagenmann has reported a case of what he called intermittent claudication of the retina, and Ortner one of transient paralysis, pain and meteorism in the small intestine and ascending colon, evidently connected with an affection of the superior mesenteric artery.

88. **Flatfoot in Relation to Nervous Disturbances.**—Muskat has frequently found that symptoms of neurasthenia vanished when existing flatfoot was corrected, and he urges neurologists and others to record the proportion of neurasthenics who have flatfoot and the number relieved of their nervous disturbances on correction of the foot trouble. He gives the anatomic reasons why the disturbance in the foot may entail sciatica and joint pains, their connection with the foot trouble being confirmed by the reappearance when the flatfoot recurs. He also frequently found that beginning flatfoot causes subjective disturbances for which no objective symptoms can be determined; many discouraged neurasthenics can be restored to health and happiness if it becomes the routine practice to examine the feet, even eventually with the Roentgen rays, to detect a tendency to flatfoot. Certain women of the upper classes who are a torment to themselves, their physician and their family by their never-ending complaints of indigestion, pains, etc., frequently suffer from flatfoot, and the correction of this disturbance frees them from all their other troubles. Ehrmann in the course of fifteen years encountered 120 patients with neuralgiaform pains in the pubic and inguinal regions, accompanying flatfoot. In the effort to step with as little pain as possible, the thigh is thrown into adduction, which pulls on the tissues and drags on and irritates the nerves. The flatfoot is readily recognized by the patient's gait and the convex inner outline of the foot. In normal conditions this forms a straight or concave line. In Austria, 33 per thousand of the recruits have to be rejected on account of flatfoot. Muskat does not discuss the treatment except that he warns that it is not enough to refer the patient to a shoemaker for an ordinary flatfoot insole. In sciatica, special attention should be paid to a possible flatfoot. On the other hand, incipient tabes may be mistaken for flatfoot, or vice versa. In differentiating this condition it is important to bear in mind gonorrheal joint affections, deforming arthritis, periostitis, gout, arteriosclerosis and intermittent limping, in addition to the affections already mentioned.

Correspondenz-Blatt für Schweizer Aerzte, Basle

October 1, XXXIX, No. 19, pp. 649-688

89 Transplantation of Bones and Organs. G. Hotz.
90 *Etiology of Hernias. C. Widmer.

90. **Etiology of Hernias.**—Widner protests against the current household practice of applying an inelastic band to the infant's abdomen as it tends to push the viscera downward and to produce a tendency to hernia. Normally, the infant abdomen forms an inverted cone, as it were, with the largest circumference near the costal arch; the inguinal region is comparatively empty of contents; the walls are depressible. With the tight "belly-band" the viscera are forced down into this region and the abdominal wall here is stretched taut and offers resistance to the finger. He does not accept the possibility of a truly congenital hernia; the hernia is always acquired later, he asserts, and the conditions produced by the traditional "belly-band" favor its production when the region is exposed to mechanical stress in later life.

Deutsche medizinische Wochenschrift, Berlin

September 30, XXXV, No. 39, pp. 1681-1728

91 *Thrombotic Obliteration and Transformation of Portal Vein. (Zur thrombotischen Obliteration und kavernösen Umwandlung der Pfortader.) W. Risel.
92 Goiter Operations Under Local Anesthesia. (Kropfexzisionen unter Lokalanästhesie.) Hackenbruch.
93 The Trachoma Corpuscles. (Die "Trachomkörperchen.") B. Heymann.
94 Atypical Bacillary Dysentery in an Insane Asylum. (Atypische Bazillenruhr in einer Irren-,Heil- und Pflegeanstalt.) K. Heuser.

95 Importance of Wassermann Reaction in Rhinology and Laryngology. J. Weinstein.
96 Serodiagnosis of Syphilis in Prostitutes. Dreyer and Meirowsky.
97 Differential Diagnosis Between Wandering Kidney and Movable Intra-abdominal Tumors. Kudlek.
98 Influence of Roentgen Rays on Lung Tissue. (Einfluss der Röntgenstrahlen auf das Lungengewebe.) F. Wohlauer.
99 *Case of Glycerin Addiction. (Fall von Glyzerinzucht.) F. Schmey.

91. **Obliteration of the Portal Vein.**—Risel describes in detail a case of fatal hemorrhagic infarcts and gangrene of the small intestine from recent thrombosis of the mesenteric vein. This was probably the result of an old change in the portal vein, the result of thrombotic occlusion of the vein trunk with subsequent organization and tunneling of the thrombus. This process had caused no symptoms unless possibly in early childhood a transient enlargement of the abdomen following scarlet fever can be regarded as such. The patient was a childless woman of 34, and four dermoid cysts were found in the ovaries.

99. **Glycerin Addiction.**—Schmey reports a case in which a young man was in the habit of drinking large amounts of glycerin every day, up to about 33 ounces. He had commenced the practice about four months before, having been told that "glycerin was good for the nerves." Some writers have mentioned that glycerin produces a kind of exhilaration like alcohol, and this intoxication was probably the incitement to the addiction. After drinking the glycerin he said his head felt heavy and he had to lie down. The family complained of his growing irritability and his demands for or stealing of money to buy the glycerin. The man was pale and slightly jaundiced, somewhat languid, with distinct dermography; the left knee jerk was normal, the right attenuated; the liver extended below the costal arch but was not tender; the urine was normal and the appetite fair. He refused to see the physician further after the first examination.

Medizinische Klinik, Berlin

September 26, V, No. 39, pp. 1466-1500

100 Treatment of Infected Wounds. (Behandlung infizierter Verletzungen.) A. Most.
101 What Characterizes Hysteria? S. Meyer.
102 *Etiology of Intercostal Neuralgia. H. Bach.
103 *Treatment of Lupus. (Behandlung des Lupus vulgaris.) E. Finger. Commenced in No. 38.
104 *The Mind of Anthropoid Apes. (Zur Frage des Geisteslebens der Menschenaffen.) A. Sokolowsky.
105 Terminal Nerve Organs and Muscle Fibers. (Nervenendorgan und Muskelfaser.) F. B. Hofmann. Commenced in No. 38.
106 *Lessons from the Cholera Epidemic at St. Petersburg. (Die Cholera indica in St. Petersburg 1908-9.) V. R. Stuhlern. Commenced in No. 38.
107 Paracelsus and His Conception of Diseases, etc. (Ueber Paracelsus und die tartarischen Krankheiten.) P. Richter. Commenced in No. 38.

102. **Etiology of Intercostal Neuralgia.**—Bach reviews the various theories in regard to the origin of intercostal neuralgia, but does not accept any of them unreservedly. On the other hand, his clinical experience suggests that mechanical conditions are mainly responsible. In six rather corpulent women, none held herself erect, the stooping attitude pressing the ribs on the intercostal nerves or exerting traction. This assumption was confirmed by the benefit realized when the patients learned to stand straight. Prophylaxis and treatment should thus be directed against the spine.

103. **Treatment of Lupus.**—Finger concludes this review of what has been and can be accomplished in the treatment of lupus with the statement that it is unwise to try to establish special lupus institutes. The money which such would cost would better be applied to provide a number of hospitals with the Finsen apparatus, etc., so that patients can be treated near their homes.

104. **Mental Operations of Anthropoid Apes.**—Sokolowsky has devoted considerable attention to study of the ape mind. Animals communicate with each other by movements, and he has been much interested in this subject as investigated in a large enclosure containing 700 monkeys. He is convinced that study of the anthropoid apes might lead to valuable discoveries for science, and suggests that those best fitted for this task are persons accustomed to training the deaf and dumb. This language by gestures might also be interestingly studied in the primitive races, bushmen, etc.

106. **Cholera in Russia.**—The various experiences with different preventive and curative serums and therapeutic measures during the epidemic of cholera that has been prevailing in Russia for over a year are reviewed. None seems to have displayed striking efficiency.

Münchener medizinische Wochenschrift

September 28, LVI, No. 39, pp. 1985-2040

108 *Bacteriolysis of Tubercle Bacilli. G. Deycke and H. Much.
109 *The Wassermann Reaction in Internal Medicine. L. Saathoff.
110 Albumin in Infant Feeding. (Rolle des Eiweiss in der Säuglingsernährung.) P. Grosser.
111 End-Results of Radical Operation of Inguinal Hernia According to Girard's Technic. (Dauerresultate bei Radikaloperation der Leistenhernien nach Girard.) Heinzmann.
112 Presenile Gangrene from Obliterating Arteritis. Schümann.
113 Psychogenic Etiology and Psychotherapy of Painful Spasm of the Vagina. (Vaginismus.) M. Walthard.
114 Direct Sunlight in Therapeutics. (Neuere Erfolge und Erfahrungen aus den Gebiete der Heliotherapie.) C. Widmer.
115 Treatment of Pain in the Arch of the Foot. (Behandlung des Metatarsalschmerzes.) H. v. Baeyer.
116 *Conservative Treatment of Severe Injury of Limb by Incision and Suction Hyperemia. (Zur konservativen Therapie schwerster Extremitätenverletzungen und drohender Gangrän.) Knoke.
117 Syphilitic Polyneuritis. H. Steinert. Commenced in No. 38.

108. **Bacteriolysis of Tubercle Bacilli.**—Deycke announces that two elements of the brain tissue, cholin and neurin, are able in a 25 per cent. solution to destroy tubercle bacilli in a few minutes. He was unable to discover any strain of tubercle bacilli which could not be destroyed by cholin or neurin. The bacilli thus dissolved form a vaccine with which he is now experimenting, the results to date surpassing all his expectations, he declares.

109. **The Wassermann Reaction in Internal Medicine.**—Saathoff insists that the greatest value is when the findings can be compared step by step with the clinical picture and postmortem data. In his extensive experience he has never encountered a case of active syphilis with a negative reaction, so that he is inclined to exclude syphilis entirely when the reaction is negative and there are no clinical manifestations. In a recent case a papulous exanthem had begun on the genitals and the patient was sent to the syphilis ward, but the Wassermann reaction was negative and the course of the case differentiated the affection as lichen ruber. It is easy to imagine the possible consequences of such a mistaken diagnosis which only the Wassermann reaction can prevent. With aneurism of the aorta, the Wassermann reaction has also nearly as decisive importance. In a recent case of aortic insufficiency the reaction was negative, but the lack of other factors had led to the diagnosis of a syphilitic origin. Autopsy, however, failed to disclose any evidence of syphilis; the aorta was absolutely smooth. In liver and kidney affections the test is also a useful guide; the findings were positive in 6 cases of liver affections, in 10 cases of nephritis, as also in 3 cases of paroxysmal hemoglobinuria. The reaction, he adds, can also be a guide into an unexplored region in which clinical diagnosis fails us. For instance, an apparently healthy young woman had been suffering from headache daily for a year, with recurring subfebrile temperature. There was nothing to indicate tuberculosis or syphilis, but a positive Wassermann reaction threw light on a certain liver affection in the husband several years before, which had roused suspicion of syphilis. The reaction was also positive in a case of a supposed tuberculous bone affection for which the patient, a young man, was just commencing a course of tuberculin. The strong positive reaction was explained later by the discovery that the father had had a syphilitic spinal affection. The pupils confirmed the diagnosis of inherited syphilis. Saathoff is now making a practice of applying the test to all the patients in his service, and has been amazed at the frequency of the positive reactions which threw light on a number of previously obscure affections. The Wassermann test not only elucidates old problems, but reveals new ones where none was suspected. It begins to be most interesting where clinical investigation has previously reached its limits.

116. **Treatment of Threatening Gangrene.**—Knoke has applied the Noesske technic described in Abstract No. 124, below, for preventing gangrene after serious injury of the fingers. The finger in this case had been cut off and was

hanging merely by a strip of skin; he replaced it, incised down to the bone over the tip of the finger and applied the suction apparatus as Noesske directs. The finger healed promptly in place.

Wiener klinische Wochenschrift, Vienna

September 30, XXII, No. 39, pp. 1323-1358

118 Varicella and Herpes Zoster. (Aetiologischer Zusammenhang der Varizellen mit gewissen Fällen von Herpes zoster.) J. v. Bokay.
119 Multiple Cartilaginous Exostosis and its Connection with Rachitis. A. Flinker.
120 Bacteriologic Research on Poliomyelitis. (Heine-Medinsche Krankheit.) K. Potpeschnigg.
121 *Form of False Dyspnea. (Seufzerkrampf.) M. Herz.
122 *Experiences with Spinal Anesthesia. (Ueber 1,100 Falle von Lumbalanalgesie.) F. Colombani.
123 Chronic Polyserositis and Gram-Positive Diplococci in the Effusion. O. Lonhardt.

121. **Sighing Spasm.**—Herz has encountered several cases of a pathologic exaggeration of sighing which simulates dyspnea of organic origin. He describes four cases in detail to sustain his assumption that the spasm in question is a psychogenic neurosis. In three cases the attacks occurred in women over thirty; one had been under great emotional stress. In all these cases the neurosis was superposed on an actual heart affection, but he was able to separate the syndrome of the two. One patient had an attack in his office; the sighing increased in intensity, the head was thrown back, the entire body shaken by the intensity of the inspirations, the attack ending with a tremendous yawn, after which there was no further trouble. There was no change in complexion or pulse; the affection had been diagnosed previously as the Cheyne-Stokes' syndrome. The case was interesting further on account of the wide difference between the patient's account of the attacks and what Herz saw with his own eyes. One of the patients was a man of 40, suffering from dread of a septic affection of the heart, as he had a feeling of oppression in the heart region several weeks after a slight wound on his hand; yawning and sudden gasping for air were the symptoms in this case, soon cured by change of scene, valerian and hydrotherapy. Mere emotions are often able to exaggerate the contractions of the diaphragm to a fatiguing extent; in some persons this occurs with every exciting conversation.

122. **Spinal Anesthesia.**—Colombani reports 1,100 cases of spinal anesthesia without any serious mishap, except that sciatica developed afterward in a man operated on for bladder stone, although a rheumatic origin for the pains was possible. In two cases a psychosis developed later, paranoia terminating in suicide in one and depressive mania in the other. The psychiatrists consulted did not consider the spinal anesthesia responsible for the mental trouble, as there was an inherited tendency, but these cases alarmed him so that he now draws the line of indications very closely. It is possible that mental disturbances may develop a long time afterward, and the connection with the nerve trauma of the spinal injection be quite overlooked. He warns against this method of anesthesia unless the general or local technic is inadvisable, and he would never use it for children under 17, nor for operations above the umbilicus or extensive laparotomies. The patient should lie horizontal, with head slightly raised. He warns against this method also for patients with septic processes, for syphilitics, as the injection might make a point of lowered resisting power, and for nervous patients.

Zentralblatt für Chirurgie, Leipsic

October 2, XXXVI, No. 40, pp. 1377-1400

124 *Conservative Treatment of Severe Injuries of the Limbs and on Suspicion of Gangrene. (Zur konservativen Behandlung schwerer Extremitätenverletzungen und gangränverdächtiger Glieder.) H. Noesske.
125 Free Transplantation of Dead Bone. (Zur Frage der freien Transplantation toten Knochens.) W. Kausch.

124. **Conservative Treatment of Severe Injuries of Fingers and Limbs and Impending Gangrene.**—Noesske attributes the gangrene after severe injury of the limbs to the lack of fresh arterial blood and the insufficient drainage away of the venous blood. The venous stasis is often the most prominent symptom of severe injury and freezing of fingers, hands or feet. None of the means used to date combats this effectually in all cases, especially when it is desired to replace a severed finger. The arterial blood-stream is unable to overcome the resistance of the venous congestion, particularly as the veins are partly collapsed, thrombosed, the sides stuck together or the lumina clogged. If it is possible to overcome this venous stasis rapidly and permanently, and to increase the supply of arterial blood, the tissues in the region become well nourished and are kept from decay. All this can be accomplished, he has found, by a deep incision down to the bone, then tamponing the wound with gauze dipped in camphorated oil to prevent its sticking together, and then covering the part with a suction bell, connected with a hydrant to maintain the vacuum, with a negative pressure of from 12 to 15 cm. mercury. This aspiration is repeated two or three times a day for eight or ten minutes for about a week. The application of the suction alone does not answer the purpose; the incision is the main thing. In one case of freezing of both thumbs and in one of threatening gangrene in Raynaud's disease, he made the incision over the tip of the finger, cutting down to the bone both front and back. Sensibility returned in a few hours and the finger was saved, while the incision healed smoothly. The conditions for success are early incision, absolutely open treatment of the wound, and refraining from any suturing for several days to prevent any opportunity for retention and infection. His experience to date has been limited to fingers, but he suggests that it is possible that this same technic might render good service in threatening gangrene or loss of vitality in tissues elsewhere.

Zentralblatt für Gynäkologie, Leipsic

October 2, XXXIII, No. 40, pp. 1385-1416

126 *Comparison of the Results of Various Methods of Surgical Treatment of Uterine Cancer. (Vergleichende Schätzung der verschiedenen Methoden chirurgischen Behandlung des Gebärmutterkrebses.) D. v. Ott.
127 Spontaneous Tearing Out of the Umbilical Cord. (Spontane Zerreissung der velamentös inserierten Nabelschnur.) M. Semon.

126. **Comparison of the Various Methods of Surgical Treatment of Uterine Cancer.**—Ott compares the statistics of Wertheim, Staude and Schauta with the enlarged methods and his own simple vaginal method, the outcome apparently speaking in favor of his technic. The primary mortality was only 2.1 per cent., and 36.2 per cent. of his 191 patients operated on more than five years ago are still free from recurrence. This is a smaller proportion than other surgeons show, but it is much larger when the difference in the primary mortality is taken into consideration: 2.1 per cent. in his 191 cases, while it ranged from 15.5 per cent. to 23.3 per cent. in the 116, 58 and 47 cases of the other surgeons. In order to insure one and one-half times better promise of radical cure, he asks, is it wise to advocate other technics with eleven times greater direct danger?

Gazzetta degli Ospedali, Milan

September 30, XXX, No. 127, pp. 1233-1240

128 Pathogenic Connection Between Polymorphous Erythema and Tuberculosis. G. Alessandri.

October 3, No. 118, pp. 1241-1256

129 *Protrusion and Depression of Chest with Pneumothorax. (Un nuovo segno fisico dello pneumotorace.) G. Spadaro.

129. **Sign of Pneumothorax.**—Spadaro noted a protrusion of the chest wall in the lower region in front, which appeared as the patient reclined and vanished as he stood erect, leaving a depression in its place, as he shows in two illustrations. He accepts this as a sign of an enclosed pneumothorax, and discusses the points which differentiate it from a subphrenic pyoneumothorax, etc., with which it might be confounded.

Policlinico, Rome

October 3, XVI, No. 40, pp. 1253-1284

130 *Carcinoma of the Male Breast. (Contributo alla casistica del carcinomi della mammella maschile.) D. Ottolia.

130. **Cancer of the Male Breast.**—Ottolia has encountered in the last five years three cases of carcinoma in the left male breast and twenty-seven cases of cancer of the female breast. In one year one man and three women comprised the patients in this class, so that the male cancers formed 25 per cent. of the total encountered; in the total five years the proportion was 11 per cent. His male patients were between 55 and 75

years old, and one of them was in good condition a year later; one has been lost sight of; the third succumbed to thrombosis of the mesenteric vessels two weeks after the operation.

Hygiea, Stockholm

August, LXXI, No. 8, pp. 769-878

131 Myoma Complicating Pregnancy and Delivery. (Om myom som komplikation under hafvandeskap och förlossning.) L. Lindquist.
132 Mechanism of Constipating Action of Morphin and Opium. (Om mekanismen af morfinets och opiets stoppande verkan.) C. G. Santesson.
133 Two Cases of Twins with Single Amnion. (Två fall af enäggiga tvillingar med gemensam amnion och sammanknutna nafvelsträngar.) G. Pallin.
134 *Diabetes Mellitus in Early Childhood. (Diabetes mellitus i tidigare barnaåren.) P. Landahl.
135 Menstruation During Lactation. (Menstruationens förhållande under digifningen.) O. Sundin.

134. **Diabetes in Children.**—Landahl has encountered six cases of diabetes in children from 10 months to 16 years old. In four the children were not seen until the disease was in such an advanced stage that death soon followed. In a fifth case a female child of 14 months presented considerable glycosuria, the exact proportion not determined. There had been no preceding infection except influenza a few weeks before, and the child was brought for medical advice merely on account of bilateral cataract. On a diet free from carbohydrates the sugar disappeared permanently from the urine in a few weeks and the child has been in good health for thirteen years to date. The sixth little patient was a male child nearly 2 years old who had been kept in fairly good condition for three years by regulation of the diet. When the proportion of sugar is high the child feels sick, but the subjective health improves parallel with the reduction of the amount of sugar in the urine. In treatment of juvenile diabetes he warns that the cocoa on the market is liable to be mixed with carbohydrates and consequently should be selected with care; pure cocoa with cream can generally be allowed. He emphasizes the necessity for routine examination of the urine of children as this will reveal many unsuspected cases of diabetes, and the chances for a complete cure are better the earlier treatment is commenced. Children in families with a tendency to diabetes should be supervised with exceptional care and warned against sweets. Even in the healthy, he says, ingestion of 100 gm. of sugar on the fasting stomach will induce glycosuria; it soon subsides unless there is a predisposition to diabetes, in which case it is liable to persist and induce diabetic symptoms. Consequently families with a history of diabetes should be warned against sweets, especially on an empty stomach. If a reducing substance should be found in the urine after eating a sweet article of food, all sweets should be forbidden and the diet carefully regulated. The general measures found useful in tuberculosis should be applied also in juvenile diabetes, especially abundance of fresh air day and night and avoidance of all mental and physical effort. In his sixth case the child's maternal grandfather and great-grandfather had been diabetics, but the infant had developed normally until the twenty-first month, when it began to pine and 1.5 per cent. sugar was found in the urine and the acetone reaction was positive. Everything that contained sugar was excluded from the diet and sodium bicarbonate given. The specific gravity of the urine ranges from 1.020 to 1.032, but there has never been excessive thirst or polyuria. The child is now approaching the age of 5; the tolerance for carbohydrates is still very low, although higher than formerly. Glucose appears in the urine if the limit of tolerance for carbohydrates is overpassed, and sometimes then, especially if the child is tired, he vomits. The boy is now 43.3 inches tall and weighs about 37 pounds. He can play out of doors for hours at a time and take walks without much fatigue. Landahl's fifth case resembles that reported by Schmitz in which the wife of a diabetic feared that her little son might have inherited the tendency, and she had his urine examined frequently, but always with negative findings until the child had an attack of "gastric fever," when 5.8 per cent. sugar was found in the urine. On a strict antidiabetic diet the glycosuria subsided in less than a month, and there has been no recurrence during the twenty years since, with unrestricted diet

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

STUDIES ON LEPROSY. V. A Report on the Treatment of Six Cases of Leprosy with Nastine (Deycke). By Walter R. Brinckerhoff, S.B., M.D., Director Leprosy Investigation Station, Public Health and Marine-Hospital Service, and James T. Wayson, M.D., Member of the Board of Health of the Territory of Hawaii Honolulu, Hawaii. VI. Leprosy in the United States of America in 1909. By Walter R. Brinckerhoff, S.B., M.D., Director Leprosy Investigation Station, Public Health and Marine-Hospital Service. Paper. Pp. 24, with illustrations. Washington: Government Printing Office, 1909.

BEITRÄGE ZUR PHOTOGRAPHIE DER BLUTSPEKTRA, unter Berücksichtigung der Toxikologie der Ameisensäure. Von Reg.-Rat Dr. med. E. Rost. Mitglied d. k. Gsndhtsamte. und Dr. med. Fr. Frantz, ständ. Mitarbeiter im k. Gsndhtsamte., und Dr. phil. R. Heise, technischem Rat im k. Gsndhtsamte. Paper. Pp. 304, with 15 illustrations. Price, 9 marks. Reprint from Arb. a. d. k. Gsndhtsamte, XXXII, No. 2. Berlin: Verlag von Julius Springer, 1909.

ATLAS OF EXTERNAL DISEASES OF THE EYE. By Dr. Richard Greeff, Professor of Ophthalmology in the University of Berlin and Chief of the Royal Ophthalmic Clinic in the Charité Hospital. Only Authorized English Translation by P. W. Shedd, M.D., New York. Half leather, with 54 plates and 84 figures in color. Pp. 135. Price, $10. New York: Rebman Co.

THE ENZYME TREATMENT FOR CANCER. By William Seaman Bainbridge, A.M., Sc.D., M.D., Scientific Report on Investigations with Reference to the Treatment of Cancer. Paper. Pp. 34. Published with the Authority of the Committee on Scientific Research of the New York Skin and Cancer Hospital. No. 1.

RENAL, URETERAL, PERIRENAL AND ADRENAL TUMORS AND ACTINOMYCOSIS AND ECHINOCOCCUS OF THE KIDNEY. By Edgar Garceau, M.D., Visiting Gynecologist to St. Elizabeth's Hospital, and to Boston Dispensary, Boston, Mass. Cloth. Pp. 404, with 72 illustrations. Price, $5. New York: D. Appleton & Co.

CHEMICAL AND MICROSCOPICAL DIAGNOSIS. By Francis Carter Wood, M.D., Professor of Clinical Pathology, College of Physicians and Surgeons, Columbia University, New York. Second Edition. Cloth. Pp. 725, with 192 illustrations and 9 colored plates. Price, $5. New York: D. Appleton & Co.

DISEASES OF THE EAR. By Edward Bradford Dench, Ph.B., M.D., Professor of Diseases of the Ear in the University and Bellevue Hospital Medical College. Cloth. Pp. 696, with 158 illustrations in text and 9 plates. Fourth Edition. Price, $5. New York: D. Appleton & Co., 1909.

PYE'S SURGICAL HANDICRAFT. Fifth Edition. Revised and Largely Rewritten by W. H. Clayton-Greene, B.A., M.B., B.C., F.R.C.S., Surgeon-in-Charge of Out-Patients, St. Mary's Hospital. Cloth. Pp. 576, with 343 illustrations. Price, $4. net. New York: E. B. Treat & Co., 1909.

UEBER DAS WESEN DER FORMATIVEN REIZUNG. Von Jacques Loeb, Professor of Physiology in the University of California, Berkeley. Read before the Sixteenth International Medical Congress in Budapest, 1909. Paper. Pp. 34. Price, 1 mark. Berlin: Verlag von Julius Springer, 1909.

KLINIK DER MISSBILDUNGEN UND KONGENITALEN ERKRANKUNGEN DES FÖTUS. Von Professor Dr. R. Birnbaum, Oberarzt der Kgl. Universitats-Frauenklinik zu Göttingen. Paper. Pp. 274, with 49 illustrations. Price, 12 marks. Berlin: Verlag von Julius Springer, 1909.

SECHSUNDACHTZIGSTER JAHRES-BERICHT DER SCHLESISCHEN GESELLSCHAFT FÜR VATERLÄNDISCHE CULTUR. Enthält den Generalbericht über die Arbeiten und Veränderungen der Gesellschaft im Jahre 1908. Paper. Breslau: G. P. Aderholz' Buchhandlung, 1909.

EINFÜHRUNG IN DIE MODERNE KINDERHEILKUNDE. Ein Lehrbuch für Studierende und Aerzte. Von Dr. B. Salge, Professor der Kinderheilkunde in Frieburg i. B. Cloth. Pp. 356, with 9 illustrations. Price, 9 marks. Berlin: Verlag von Julius Springer, 1909.

PRACTICAL POINTS IN THE USE OF *X*-RAY AND HIGH-FREQUENCY CURRENTS. By Aspinwall Judd, M.D., Adj. Professor of Surgery of Post-Graduate Medical School and Hospital. Cloth. Pp. 189, with illustrations. Price, $1.50. New York: Rebman Co.

THE DISEASES OF CHILDREN. By Henry Enos Tuley, M.D., Professor of Obstetrics, University of Louisville, Medical Department. Cloth. Pp. 631, with illustrations. Price, $5. Baltimore: Southern Medical Pub. Co., 1909.

STATE HOSPITALS' BULLETIN, STATE OF NEW YORK. Published Four Times a Year by the Authority of the State Commission in Lunacy. Vol. II. September, 1909. No. 2. Paper. Pp. 557. Single Copy 50 cents.

THE DIAGNOSTICS OF INTERNAL MEDICINE. By Glentworth Reeve Butler, M.D., Sc.D., LL.D., Attending Physician to Brooklyn Hospital. Cloth. Pp. 1,165, with 277 illustrations. Third Edition. Price, $6. New York: D. Appleton & Co., 1909

THIRTY-SECOND ANNUAL REPORT OF THE BOARD OF HEALTH OF THE STATE OF NEW JERSEY, 1908, and Report of the Bureau of Vital Statistics. Cloth. Pp. 633.

THE TRAINING OF CHILDREN FROM CRADLE TO SCHOOL. By Mrs. H. C. Cradock. Cloth. Pp. 91. Price, 60 cents. London: George Bell and Sons, 1909.

UMWELT UND INNENWELT DER TIERE. Von J. von Uexküll, Dr. med. hon. c. Paper. Pp. 259. Berlin: Verlag von Julius Springer, 1909.